# **SIEMENS**

Data sheet 3RU2116-1BB0

Overload relay 1.4...2.0 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	
<ul> <li>at AC in hot operating state</li> </ul>	5.7 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	1.9 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 safe isolation	
<ul> <li>in networks with grounded 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 grounded 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
protection class IP	
• on the front	IP20
<ul><li>of the terminal</li></ul>	IP20
shock resistance	
• acc. to IEC 60068-2-27	8g / 11 ms
type of protection according to ATEX directive 2014/34/EU	Ex II (2) GD
certificate of suitability according to ATEX directive 2014/34/EU	DMT 98 ATEX G 001
reference code acc. to IEC 81346-2	F
Ambient conditions	
installation altitude at height above sea level	2 000 m
maximum	
ambient temperature	
<ul><li>during operation</li></ul>	-40 +70 °C
<ul><li>during storage</li></ul>	-55 +80 °C
<ul> <li>during transport</li> </ul>	-55 +80 °C
temperature compensation	-40 +60 °C
relative humidity during operation	10 95 %
Main circuit	
Main circuit number of poles for main current circuit	3
	3 1.4 2 A
number of poles for main current circuit adjustable current response value current of the current-dependent overload release	
number of poles for main current circuit adjustable current response value current of the	1.4 2 A
number of poles for main current circuit adjustable current response value current of the current-dependent overload release	
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage	1.4 2 A
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage  • rated value • at AC-3 rated value maximum operating frequency rated value	1.4 2 A 690 V
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage  • rated value • at AC-3 rated value maximum operating frequency rated value operational current rated value	1.4 2 A 690 V 690 V
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage  • rated value • at AC-3 rated value maximum operating frequency rated value operational current rated value operating power at AC-3	1.4 2 A 690 V 690 V 50 60 Hz 2 A
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage  • rated value • at AC-3 rated value maximum operating frequency rated value operational current rated value	1.4 2 A 690 V 690 V 50 60 Hz 2 A 0.75 kW
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage  • rated value • at AC-3 rated value maximum operating frequency rated value operational current rated value operating power at AC-3	1.4 2 A  690 V  690 V  50 60 Hz  2 A  0.75 kW
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum operating frequency rated value operational current rated value operating power at AC-3 • at 400 V rated value	1.4 2 A 690 V 690 V 50 60 Hz 2 A 0.75 kW
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum operating frequency rated value operational current rated value operating power at AC-3 • at 400 V rated value • at 500 V rated value	1.4 2 A  690 V  690 V  50 60 Hz  2 A  0.75 kW
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage	1.4 2 A  690 V  690 V  50 60 Hz  2 A  0.75 kW
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum operating frequency rated value operational current rated value operating power at AC-3 • at 400 V rated value • at 500 V rated value • at 690 V rated value Auxiliary circuit	1.4 2 A  690 V  690 V  50 60 Hz  2 A  0.75 kW  0.75 kW  1.1 kW
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage	1.4 2 A  690 V  690 V  50 60 Hz  2 A  0.75 kW  0.75 kW  1.1 kW
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum operating frequency rated value operational current rated value operating power at AC-3 • at 400 V rated value • at 500 V rated value • at 690 V rated value Auxiliary circuit design of the auxiliary switch number of NC contacts for auxiliary contacts	1.4 2 A  690 V  690 V  50 60 Hz  2 A  0.75 kW  0.75 kW  1.1 kW
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage	1.4 2 A  690 V  690 V  50 60 Hz  2 A  0.75 kW  0.75 kW  1.1 kW  integrated  1  for contactor disconnection
number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage	1.4 2 A  690 V  690 V  50 60 Hz  2 A  0.75 kW  0.75 kW  1.1 kW  integrated  1  for contactor disconnection  1

operational current of auxiliary contacts at AC-15  • at 24 V  • at 110 V  • at 120 V  • at 125 V  • at 230 V  2 A	
<ul> <li>at 110 V</li> <li>at 120 V</li> <li>at 125 V</li> <li>3 A</li> <li>3 A</li> <li>3 A</li> <li>3 A</li> </ul>	
• at 120 V 3 A • at 125 V 3 A	
• at 125 V 3 A	
a. 120 1	
4.200	
● at 400 V 1 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	
contact rating of auxiliary contacts according to UL B600 / R3	800
Protective and monitoring functions  trip class  CLASS 1	
design of the overload release thermal	J.
design of the overload release	
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value 2 A	
• at 600 V rated value 2 A	
Short-circuit protection	
design of the fuse link	
	6 A, quick: 10 A
required	
Installation/ mounting/ dimensions	
mounting position any	
fastening method Contacto	mounting
height 76 mm	
width 45 mm	
depth 70 mm	
Connections/ Terminals	
product function	
• removable terminal for auxiliary and control No	
circuit	
type of electrical connection	
	e terminals
,	e terminals
arrangement of electrical connectors for main current circuit	pottom
type of connectable conductor cross-sections	

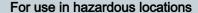
for main contacts	
— solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), 2x 4 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
at AWG cables for main contacts	2x (20 16), 2x (18 14), 2x 12
• type of connectable conductor cross-sections	
for auxiliary contacts	
<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)
• type of connectable conductor cross-sections at	2x (20 16), 2x (18 14)
AWG cables for auxiliary contacts	
tightening torque	
<ul> <li>for main contacts with screw-type terminals</li> </ul>	0.8 1.2 N·m
• for auxiliary contacts with screw-type terminals	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
Safaty related data	

Safety related data	
failure rate [FIT]	
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	50 FIT
MTTF with high demand rate	2 280 y
T1 value for proof test interval or service life acc. to IEC 61508	20 y

Display	
display version	
• for switching status	Slide switch

## Certificates/ approvals

#### **General Product Approval**















**IECE**x

## **Declaration of Conformity**

#### **Test Certificates**

#### Marine / Shipping



Miscellaneous

Type Test Certificates/Test Report

Special Test Certificate





## Marine / Shipping

other



LRS









Confirmation

## Railway

Vibration and Shock

## 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=3RU2116-1BB0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-1BB0

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

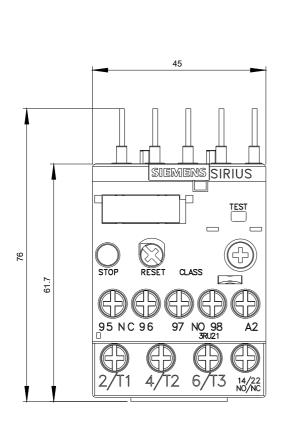
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1BB0

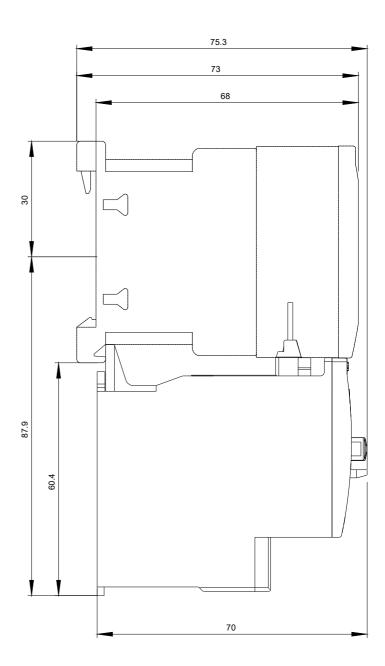
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)  $\underline{\text{http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RU2116-1BB0\&lang=en}}$ 

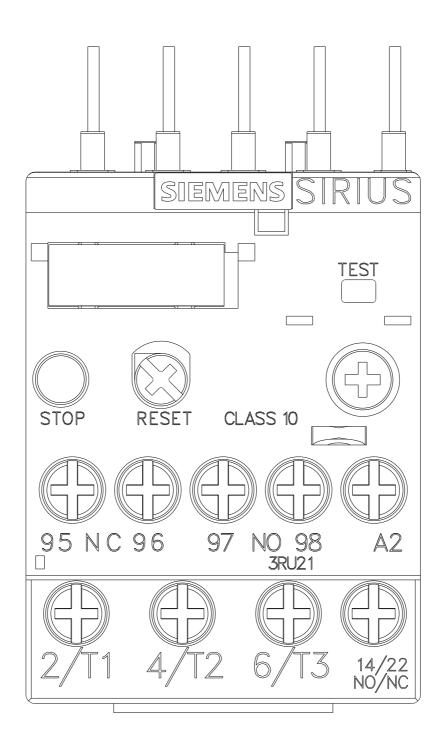
Characteristic: Tripping characteristics, I2t, Let-through current

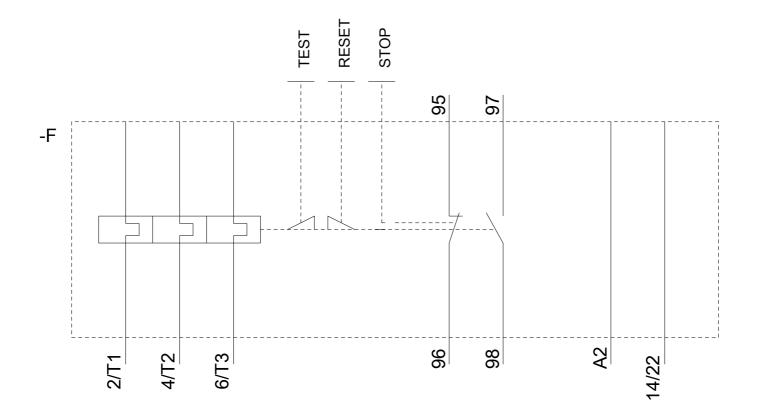
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1BB0/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-1BB0&objecttype=14&gridview=view1









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