# **SIEMENS**

Data sheet 3RU2116-1AC1

Overload relay 1.1...1.6 A for motor protection Size S00, CLASS 10 Stand-alone installation Main circuit: Spring-type terminal Auxiliary circuit: spring-type terminal 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] total typical	5.1 W
Insulation voltage with degree of pollution 3 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
• of the terminal	IP20
Shock resistance	
• acc. to IEC 60068-2-27	8g / 11 ms
Type of protection	Ex e
Certificate of suitability relating to ATEX	DMT 98 ATEX G 001
Protection against electrical shock	finger-safe
Reference code acc. to DIN EN 81346-2	F

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	0 90 %

Main circuit	
Number of poles for main current circuit	3
Adjustable pick-up value current of the current-	1.1 1.6 A
dependent overload release	
Operating voltage	
• rated value	690 V
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V
Operating frequency rated value	50 60 Hz
Operating current rated value	1.6 A
Operating power at AC-3	
• at 400 V rated value	0.55 kW
• at 500 V rated value	0.75 kW
• at 690 V rated value	1.1 kW

Auxiliary circuit	
Design of the auxiliary switch	integrated
Number of NC contacts for auxiliary contacts	1
<ul><li>Note</li></ul>	for contactor disconnection
Number of NO contacts for auxiliary contacts	1
• Note	for message "Tripped"
Number of CO contacts	
<ul> <li>for auxiliary contacts</li> </ul>	0
Operating current of auxiliary contacts at AC-15	
● at 24 V	3 A
● at 110 V	3 A

Contact rating of auxiliary contacts according to UL	B600 / R300
● at 220 V	0.11 A
● at 125 V	0.22 A
• at 110 V	0.22 A
• at 60 V	0.3 A
• at 24 V	2 A
Operating current of auxiliary contacts at DC-13	
● at 400 V	1 A
● at 230 V	2 A
● at 125 V	3 A
● at 120 V	3 A

Protective and monitoring functions	
Trip class	CLASS 10
Design of the overload release	thermal

# UL/CSA ratings

# Full-load current (FLA) for three-phase AC motor

at 480 V rated value
 at 600 V rated value
 1.6 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	
Mounting type	stand-alone installation	
Height	102 mm	
Width	45 mm	
Depth	79 mm	
Required spacing		
<ul><li>with side-by-side mounting</li></ul>		
— forwards	0 mm	
— Backwards	0 mm	
— upwards	6 mm	
— downwards	6 mm	
— at the side	6 mm	
• for grounded parts		
— forwards	0 mm	
— Backwards	0 mm	
— upwards	6 mm	
— at the side	6 mm	

— downwards	6 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	6 mm
— downwards	6 mm
— at the side	6 mm

Connections/Terminals	
Product function	
	No
<ul> <li>removable terminal for auxiliary and control circuit</li> </ul>	NO .
Type of electrical connection	
• for main current circuit	spring-loaded terminals
	spring-loaded terminals
for auxiliary and control current circuit  Arrangement of electrical connectors for main current	Top and bottom
circuit	Top and bottom
Type of connectable conductor cross-sections	
• for main contacts	
<ul><li>— single or multi-stranded</li></ul>	1x (0,5 4 mm²)
— finely stranded with core end processing	1x (0.5 2.5 mm²)
<ul> <li>finely stranded without core end</li> </ul>	1x (0.5 2.5 mm²)
processing	
<ul> <li>at AWG conductors for main contacts</li> </ul>	1x (20 12)
Type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul> <li>single or multi-stranded</li> </ul>	2x (0,5 2,5 mm²)
— finely stranded with core end processing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>finely stranded without core end</li> </ul>	2x (0.5 1.5 mm²)
processing	
<ul> <li>at AWG conductors for auxiliary contacts</li> </ul>	2x (20 14)
Design of screwdriver shaft	Diameter 3 mm
Size of the screwdriver tip	3,0 x 0,5 mm
0.66.	

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	
<ul> <li>for switching status</li> </ul>	Slide switch

## **General Product Approval**

### For use in hazardous locations













**IECE**x

Declaration of
Conformity

**Test Certificates** 

Marine / Shipping



Type Test Certificates/Test Report

Special Test Certificate





other



LRS

Railway

Marine / Shipping







Confirmation

Vibration and Shock

Further information

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

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RU2116-1AC1

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-1AC1

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

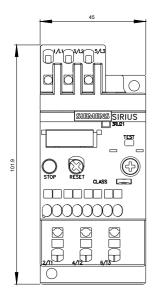
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1AC1

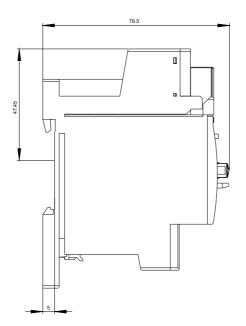
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RU2116-1AC1&lang=en

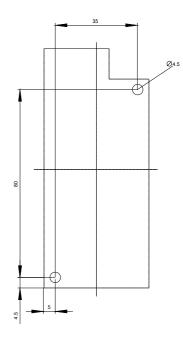
Characteristic: Tripping characteristics, I2t, Let-through current

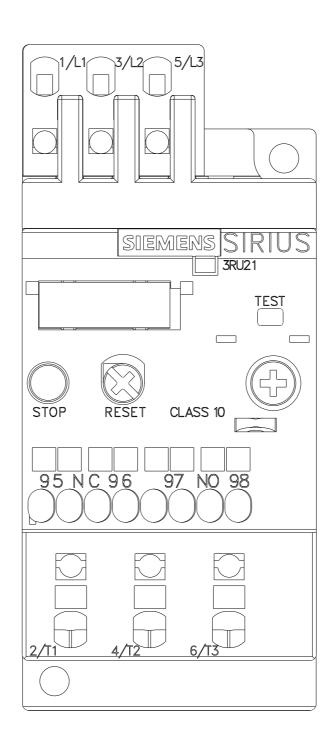
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1AC1/char

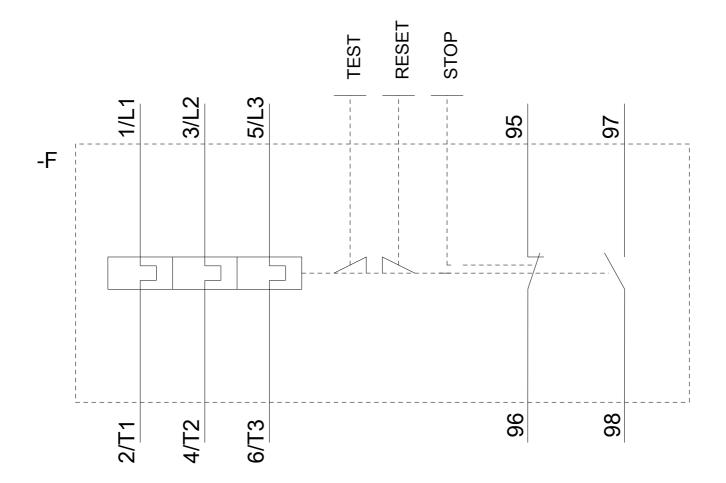
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-1AC1&objecttype=14&gridview=view1











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