## **SIEMENS**

Data sheet 3RU2116-0FC1



Overload relay 0.35...0.50 A Thermal For motor protection Size S00, Class 10 Stand-alone installation Main circuit: Spring-type terminal Auxiliary circuit: spring-type terminal Manual-Automatic-Reset

product designation product type designation general technical data size of overload relay size of contactor can be combined company-specific power loss [W] for rated value of the current at AC in hot operating state • per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point • between auxiliary and auxiliary circuit • between main and auxiliary circuit • between for protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  F Substance Prohibitance (Date)  Ambient temperature during operation • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during transport  temperature compensation • 40 +60 °C relative humidity during operation • 40 +60 °C relative humidity during operation • 40 +60 °C relative humidity during operation • 10 95 %  Main circuit number of poles for main current circuit	product brand name	SIRIUS
Size of overload relay size of contactor can be combined company-specific power loss   My for rated value of the current at AC in hot operating state • per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point • between auxiliary and auxiliary circuit • between auxiliary and auxiliary circuit • between main and auxiliary circuit • between for protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2 Substance Prohibitance (Date)  Ambient temperature during operation • ambient temperature during storage • 55 +80 °C  temperature compensation relative humidity during operation  Main circuit number of poles for main current circuit  3	product designation	thermal overload relay
size of overload relay size of contactor can be combined company-specific power loss [W] for rated value of the current at AC in hot operating state	product type designation	3RU2
size of contactor can be combined company-specific power loss [W] for rated value of the current at AC in hot operating state  • per pole  insulation voltage with degree of pollution 3 at AC rated value  surge voltage resistance rated value  maximum permissible voltage for safe isolation in networks with grounded star point  • between auxiliary and auxiliary circuit  • between auxiliary and auxiliary circuit  • between main and auxiliary circuit  • between ratin and auxiliary circuit  • between ratin and auxiliary circuit  • between ratin and auxiliary circuit  • between main and auxiliary circuit  • between auxilia	General technical data	
power loss [W] for rated value of the current at AC in hot operating state  • per pole insulation voltage with degree of pollution 3 at AC rated value  surge voltage resistance rated value  maximum permissible voltage for safe isolation in networks with grounded star point  • between auxiliary and auxiliary circuit • between main and auxiliary circuit • between for in a coording to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport  temperature compensation relative humidity during operation  4.8 W  680 V  680 V  680 V  640	size of overload relay	S00
operating state  • per pole insulation voltage with degree of pollution 3 at AC rated value  surge voltage resistance rated value  maximum permissible voltage for safe isolation in networks with grounded star point  • between auxiliary and auxiliary circuit • between main and auxiliary circuit • 440 V • 440 V • 440 V • 440 V • 58 / 11 ms  by 11 ms  by 12 (2) GD  DMT 98 ATEX G 001  DMT 98 ATEX G 001  DMT 98 ATEX G 001  10 90 00:00:00  DMT 98 ATEX G 001  - crifficate of suitability according to ATEX directive  2014/34/EU  reference code acc. to IEC 81346-2  F Substance Prohibitance (Date of auxiliary circuit  10 90 00:00:00  DMT 98 ATEX G 001  - crifficate of suitability according to ATEX directive  2014/34/EU  reference code acc. to IEC 81346-2  F Substance Prohibitance (Date of auxiliary circuit  440 V  440 V  440 V  440 V  58 / 11 ms  147 (2) GD  2014/34/EU  16 (2) GD  2014/34/EU	size of contactor can be combined company-specific	S00
insulation voltage with degree of pollution 3 at AC rated value  surge voltage resistance rated value  maximum permissible voltage for safe isolation in networks with grounded star point  • between auxiliary and auxiliary circuit • between auxiliary and auxiliary circuit • between main and auxiliary circuit • DMT 98 ATEX G 001  DMT 98 ATEX G 001  DMT 98 ATEX G 001  2014/34/EU  reference code acc. to IEC 81346-2  F Substance Prohibitance (Date)  01.10,2009 00:00:00  Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • 40 +70 °C • ambient temperature during storage • 55 +80 °C  temperature compensation relative humidity during operation  10 95 %  Main circuit number of poles for main current circuit  3	,	4.8 W
surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point  • between auxiliary and auxiliary circuit • between main and auxiliary circuit • A40 V • 440 V • 440 V • 440 V • between main and auxiliary circuit • Ex II (2) GD  DMT 98 ATEX G 001  DMT 98 ATEX G 001  **Ex II (2) GD  DMT 98 ATEX G 001  **Ex II (2) GD  **Out 98 ATEX G 001  **Out 98 ATE	• per pole	1.6 W
maximum permissible voltage for safe isolation in networks with grounded star point  • between auxiliary and auxiliary circuit  • between auxiliary and auxiliary circuit  • between main and auxiliary circuit  **Shock resistance acc. to IEC 60068-2-27  **Suppose of protection according to ATEX directive  **2014/34/EU  certificate of suitability according to ATEX directive  **2014/34/EU  certificate of suitability according to ATEX directive  **2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  **Ambient conditions**  installation altitude at height above sea level maximum  • ambient temperature during operation  • ambient temperature during storage  • ambient temperature during storage  • ambient temperature during transport  -55 +80 °C  temperature compensation  relative humidity during operation  **Main circuit*  number of poles for main current circuit  3	The state of the s	690 V
networks with grounded star point  • between auxiliary and auxiliary circuit  • between auxiliary and auxiliary circuit  • between main and auxiliary circuit  440 V  shock resistance acc. to IEC 60068-2-27  8g / 11 ms  type of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation  • ambient temperature during storage  • ambient temperature during storage  • ambient temperature during transport  -55 +80 °C  temperature compensation  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  3	surge voltage resistance rated value	6 kV
between auxiliary and auxiliary circuit between main auxiliary circuit between auxiliary cir		
between main and auxiliary circuit between main and auxiliary circuit shock resistance acc. to IEC 60068-2-27  type of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature during operation ambient temperature during storage ambient temperature during transport  temperature compensation relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  3	<ul> <li>between auxiliary and auxiliary circuit</li> </ul>	440 V
between main and auxiliary circuit     shock resistance acc. to IEC 60068-2-27     type of protection according to ATEX directive     2014/34/EU  certificate of suitability according to ATEX directive     2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature during operation  ambient temperature during storage  ambient temperature during transport  ambient temperature during transport  temperature compensation  relative humidity during operation  Main circuit  number of poles for main current circuit    by 11 ms  Ex II (2) GD  DMT 98 ATEX G 001  DMT 98 ATEX G 001  201  01.10.2009 00:00:00   Fix II (2) GD  DMT 98 ATEX G 001  201  ATEX G 001  201  ATEX G 001  201  ATEX G 001  201  ATEX G 001  200  DMT 98 ATEX G 001  201  ATEX G 001  200  ATEX G 001  201  ATEX G 001  ATEX	<ul> <li>between auxiliary and auxiliary circuit</li> </ul>	440 V
shock resistance acc. to IEC 60068-2-27  type of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during transport  temperature compensation relative humidity during operation  Main circuit  1	<ul> <li>between main and auxiliary circuit</li> </ul>	440 V
type of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during transport  temperature compensation  relative humidity during operation  Main circuit  number of poles for main current circuit  2 XII (2) GD  EX II (2) GD  DMT 98 ATEX G 001  PO 0 40	between main and auxiliary circuit	440 V
2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation  • ambient temperature during storage  • ambient temperature during transport  • ambient temperature during transport  -55 +80 °C  temperature compensation  -40 +60 °C  relative humidity during operation  Main circuit  number of poles for main current circuit  3	shock resistance acc. to IEC 60068-2-27	8g / 11 ms
reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during transport  -55 +80 °C  • ambient temperature compensation  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  3		Ex II (2) GD
Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport  • ambient temperature during transport  -55 +80 °C  • ambient temperature compensation  -40 +60 °C  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  3		DMT 98 ATEX G 001
Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • ambient temperature during transport -55 +80 °C  temperature compensation -40 +60 °C  relative humidity during operation  Main circuit  number of poles for main current circuit  3	reference code acc. to IEC 81346-2	F
installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • ambient temperature 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	Substance Prohibitance (Date)	01.10.2009 00:00:00
<ul> <li>ambient temperature during operation</li> <li>ambient temperature during storage</li> <li>ambient temperature during transport</li> <li>ambient temperature during transport</li> <li>55 +80 °C</li> <li>temperature compensation</li> <li>ambient temperature during transport</li> <li>55 +80 °C</li> <li>ambient temperature during transport</li> <li>55 +80 °C</li> <li>ambient temperature during transport</li> <li>55 +80 °C</li> <li>ambient temperature during storage</li> <li>55 +80 °C</li> <li>ambient temperature during storage</li> <li>55 +80 °C</li> <li>ambient temperature during storage</li> <li>55 +80 °C</li> <li>40 +60 °C</li> <li>relative humidity during operation</li> <li>10 95 %</li> <li>Main circuit</li> <li>number of poles for main current circuit</li> <li>3</li> </ul>	Ambient conditions	
<ul> <li>ambient temperature during storage</li> <li>ambient temperature during transport</li> <li>-55 +80 °C</li> <li>temperature compensation</li> <li>-40 +60 °C</li> <li>relative humidity during operation</li> <li>Main circuit</li> <li>number of poles for main current circuit</li> </ul> 3	installation altitude at height above sea level maximum	2 000 m
● ambient temperature 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	<ul> <li>ambient temperature during operation</li> </ul>	-40 +70 °C
temperature compensation -40 +60 °C relative humidity during operation 10 95 %  Main circuit number of poles for main current circuit 3	ambient temperature during storage	-55 +80 °C
relative humidity during operation 10 95 %  Main circuit  number of poles for main current circuit 3	<ul> <li>ambient temperature during transport</li> </ul>	-55 +80 °C
Main circuit number of poles for main current circuit  3	temperature compensation	-40 +60 °C
number of poles for main current circuit 3	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	adjustable current response value current of the current-dependent overload release	0.35 0.5 A
operating voltage rated value     690 V	operating voltage rated value	690 V
operating voltage at AC-3 rated value maximum     690 V		690 V

operating frequency rated value	50 60 Hz
operating frequency rated value	0.5 A
operating power at AC-3	0.5 A
at 400 V rated value	0.12 kW
• at 500 V rated value	0.18 kW
at 690 V rated value	0.25 kW
Auxiliary circuit	0.23 RVV
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	Ü
• 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	1A
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 / R300
Protective and monitoring functions	
trip class	CLASS 10
design of the overload release	thermal
UL/CSA ratings	
UL/CSA ratings full-load current (FLA) for 3-phase AC motor	0.5 A
UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  ● at 480 V rated value	0.5 A 0.5 A
UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value	0.5 A 0.5 A
UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  Short-circuit protection	
UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  Short-circuit protection  design of the fuse link	0.5 A
UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  Short-circuit protection	
UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  Short-circuit protection  design of the fuse link  • for short-circuit protection of the auxiliary switch	0.5 A
UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  Short-circuit protection  design of the fuse link  • for short-circuit protection of the auxiliary switch required	0.5 A
UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  Short-circuit protection  design of the fuse link  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions	0.5 A fuse gG: 6 A, quick: 10 A
UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  Short-circuit protection  design of the fuse link  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position	0.5 A fuse gG: 6 A, quick: 10 A any
full-load current (FLA) for 3-phase AC motor	0.5 A  fuse gG: 6 A, quick: 10 A  any stand-alone installation
full-load current (FLA) for 3-phase AC motor	0.5 A  fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value  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 width	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  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  width  depth	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  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  width  depth  Connections/ Terminals	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  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  width  depth  Connections/ Terminals  product function removable terminal for auxiliary and	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value  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  width  depth  Connections/ Terminals  product function removable terminal for auxiliary and control circuit  type of electrical connection • for main current circuit	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm  No  spring-loaded terminals
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value  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 width depth  Connections/ Terminals  product function removable terminal for auxiliary and control circuit  type of electrical connection • for main current circuit • for auxiliary and control circuit	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm  No  spring-loaded terminals spring-loaded terminals
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value  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 width depth  Connections/ Terminals  product function removable terminal for auxiliary and control circuit  type of electrical connection • for main current circuit • for auxiliary and control circuit  arrangement of electrical connectors for main current	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm  No
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value  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 width depth  Connections/ Terminals  product function removable terminal for auxiliary and control circuit  type of electrical connection • for main current circuit • for auxiliary and control circuit  arrangement of electrical connectors for main current circuit	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm  No  spring-loaded terminals spring-loaded terminals
full-load current (FLA) for 3-phase AC motor	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm  No  spring-loaded terminals spring-loaded terminals
full-load current (FLA) for 3-phase AC motor	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm  No  spring-loaded terminals spring-loaded terminals Top and bottom
full-load current (FLA) for 3-phase AC motor	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm  No  spring-loaded terminals spring-loaded terminals Top and bottom
full-load current (FLA) for 3-phase AC motor	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm  No  spring-loaded terminals spring-loaded terminals Top and bottom  1x (0,5 4 mm²) 1x (0.5 2.5 mm²)
full-load current (FLA) for 3-phase AC motor	fuse gG: 6 A, quick: 10 A  any stand-alone installation 102 mm 45 mm 79 mm  No  spring-loaded terminals spring-loaded terminals Top and bottom

type of connectable conductor cross-sections			
• for auxiliary contacts			
— solid or stranded	2x (0.5 2.5 mm²)		
finely stranded with core end processing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)		
finely stranded without core end processing	2x (0.5 1.5 mm²)		
at AWG cables for auxiliary contacts	2x (20 14)		
design of screwdriver shaft	Diameter 3 mm		
size of the screwdriver tip	3,0 x 0,5 mm		
Safety related data			
failure rate [FIT] with low demand rate acc. to SN 31920	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		
protection class IP on the front acc. to IEC 60529	IP20		
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front		
Display			
display version for switching status	Slide switch		
Certificates/ approvals			
General Product Approval		For use in hazardous locations	

**Declaration of Conformity** 

**Test Certificates** 

Marine / Shipping



**Miscellaneous** 

Special Test Certificate Type Test Certificates/Test Report

EAC





IECEx

Marine / Shipping

Lloyd's Register

LRS









Confirmation

other

## 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=3RU2116-0FC1

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RU2116-0FC1}$ 

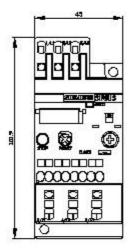
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

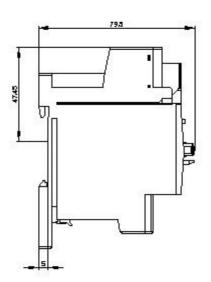
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-0FC1

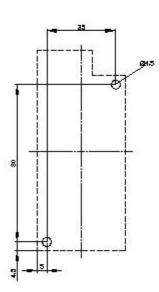
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

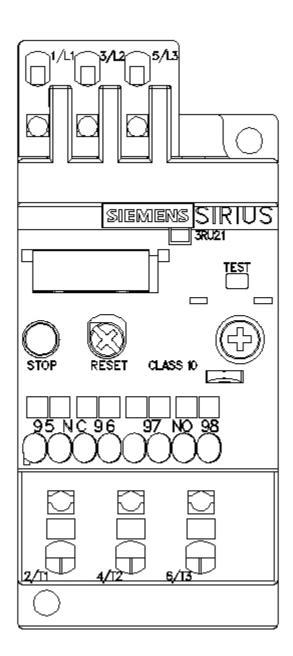
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RU2116-0FC1&lang=en

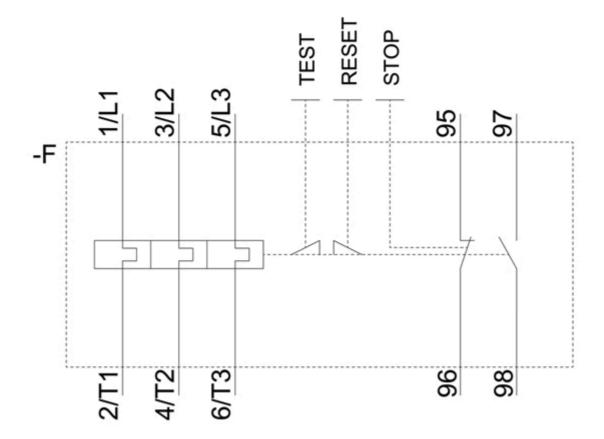
Further characteristics (e.g. electrical endurance, switching frequency)
<a href="http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-0FC1&objecttype=14&gridview=view1">http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-0FC1&objecttype=14&gridview=view1</a>











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