



Overload relay 28...40 A Thermal For motor protection Size S3, 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	S3
size of contactor can be combined company-specific	S3
power loss [W] for rated value of the current at AC in hot operating state	13.5 W
<ul style="list-style-type: none"> per pole 	4.5 W
insulation voltage with degree of pollution 3 at AC rated value	1 000 V
surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation in networks with grounded star point	
<ul style="list-style-type: none"> between auxiliary and auxiliary circuit between auxiliary and auxiliary circuit between main and auxiliary circuit between main and auxiliary circuit 	440 V 440 V 440 V 440 V
shock resistance according 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 according to IEC 81346-2	F
Substance Prohibitance (Date)	03/01/2017
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul style="list-style-type: none"> during operation during storage during transport 	-40 ... +70 °C -55 ... +80 °C -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	28 ... 40 A
operating voltage	
<ul style="list-style-type: none"> rated value at AC-3e rated value maximum 	690 V 1 000 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	40 A
operational current at AC-3e at 400 V rated value	40 A

operating power	
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value • at AC-3e <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value 	18.5 kW 22 kW 37 kW 18.5 kW 22 kW 37 kW
Auxiliary circuit	
design of the auxiliary switch	integrated
number of NC contacts for auxiliary contacts	1
<ul style="list-style-type: none"> • note 	for contactor disconnection
number of NO contacts for auxiliary contacts	1
<ul style="list-style-type: none"> • note 	for message "Tripped"
number of CO contacts for auxiliary contacts	0
operational current of auxiliary contacts at AC-15	
<ul style="list-style-type: none"> • at 24 V • at 110 V • at 120 V • at 125 V • at 230 V • at 400 V • at 690 V 	3 A 3 A 3 A 3 A 2 A 1 A 0.75 A
operational current of auxiliary contacts at DC-13	
<ul style="list-style-type: none"> • at 24 V • at 60 V • at 110 V • at 125 V • at 220 V 	2 A 0.3 A 0.22 A 0.22 A 0.11 A
design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required	6A (SCC less than equal to 0.5 kA; U less than equal to 260V)
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	
full-load current (FLA) for 3-phase AC motor	
<ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	40 A 32 A
Short-circuit protection	
design of the fuse link	
<ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required 	gG: 160 A gG: 80 A fuse gG: 6 A, quick: 10 A
Installation/ mounting/ dimensions	
mounting position	any
fastening method	Contacting mounting
height	105 mm
width	70 mm
depth	125 mm
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	No
type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit • for auxiliary and control circuit 	screw-type terminals screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections for main contacts	

<ul style="list-style-type: none"> • solid • stranded • solid or stranded • finely stranded with core end processing 	2x (2.5 ... 16 mm ²) 2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2,5 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²)
type of connectable conductor cross-sections <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts 	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
tightening torque <ul style="list-style-type: none"> • for main contacts for ring cable lug 	4.5 ... 6 N·m 19 mm
outer diameter of the usable ring cable lug maximum tightening torque <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary contacts with screw-type terminals 	4.5 ... 6 N·m 0.8 ... 1.2 N·m
design of screwdriver shaft	Hexagonal socket
size of the screwdriver tip	4 mm hexagon socket
design of the thread of the connection screw <ul style="list-style-type: none"> • for main contacts • of the auxiliary and control contacts 	M8 M3

Safety related data	
T1 value for proof test interval or service life according to IEC 61508	20 a
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

Certificates/ approvals	
General Product Approval	For use in hazardous locations



[Confirmation](#)



For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
--------------------------------	---------------------------	-------------------	-------------------



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping



other	Railway
-------	---------

[Confirmation](#)

[Special Test Certificate](#)

Further 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=3RU2146-4FB0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2146-4FB0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4FB0>

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

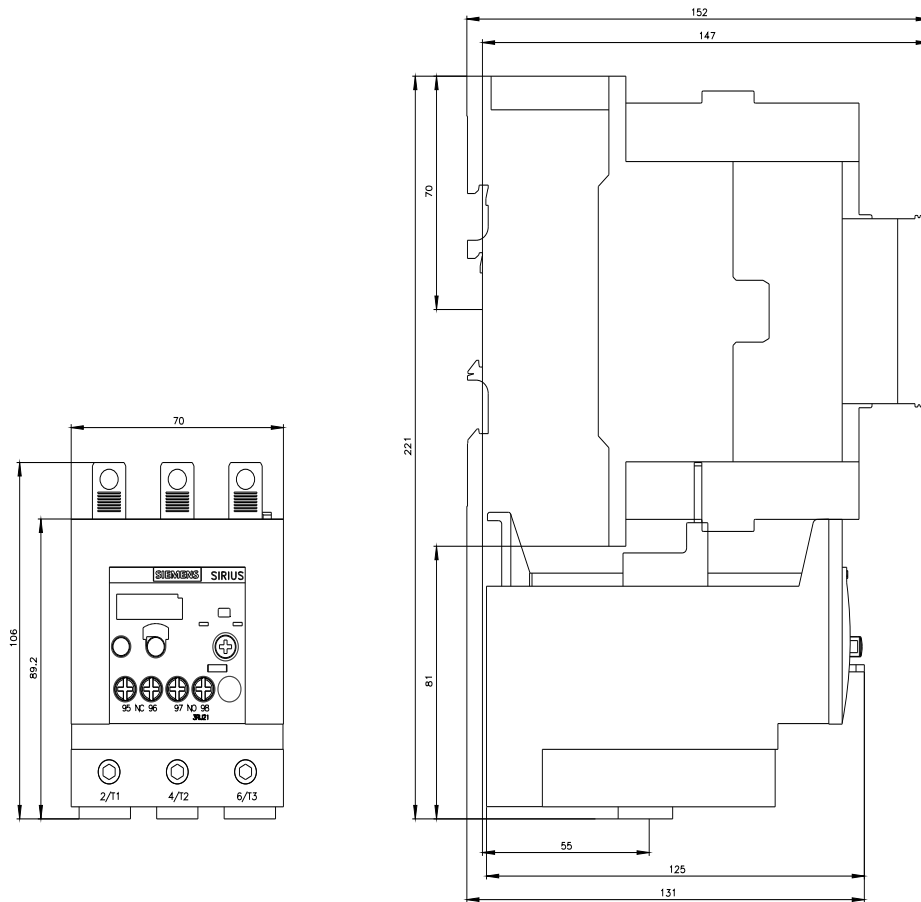
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2146-4FB0&lang=en

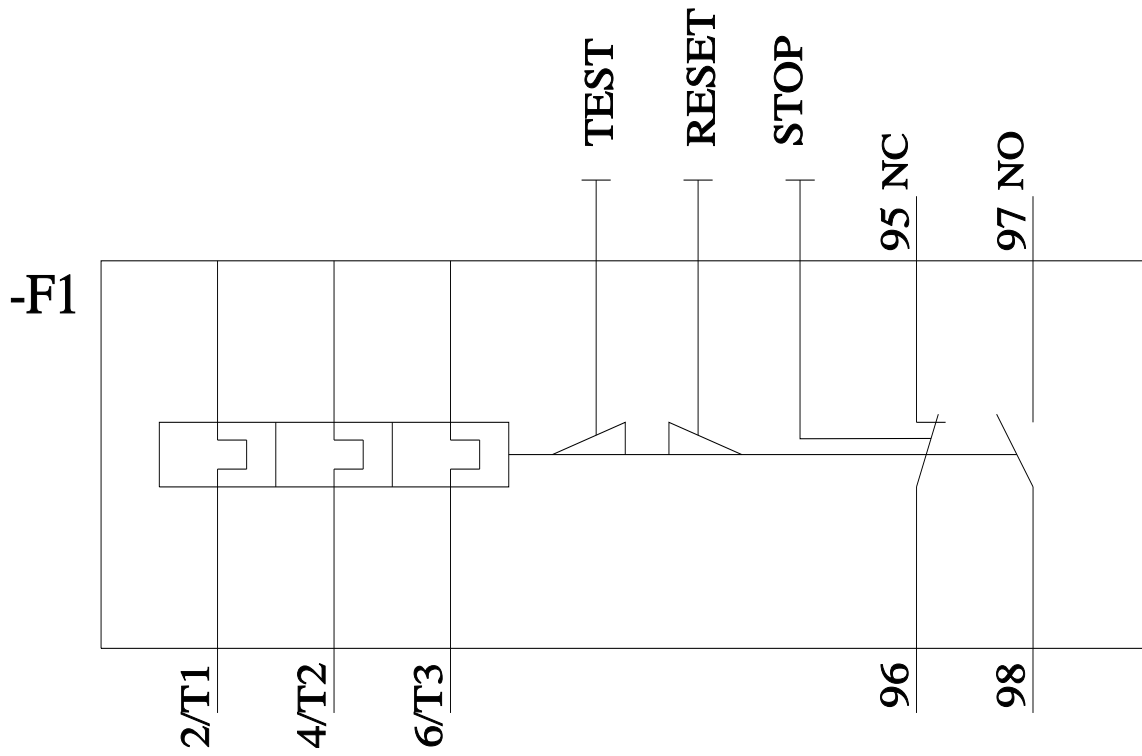
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4FB0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2146-4FB0&objecttype=14&gridview=view1>





last modified:

3/8/2022 