



operational current		
• at AC-1 at 400 V at ambient temperature 40 °C rated value	22 A	
• at AC-1		
— up to 690 V at ambient temperature 40 °C rated value	22 A	
— up to 690 V at ambient temperature 60 °C rated value	20 A	
• at AC-3		
— at 400 V rated value	9 A	
— at 500 V rated value	7.7 A	
— at 690 V rated value	6.7 A	
• at AC-4 at 400 V rated value	8.5 A	
• at AC-5a up to 690 V rated value	19.4 A	
• at AC-5b up to 400 V rated value	7.4 A	
• at AC-6a		
— up to 230 V for current peak value n=20 rated value	5.3 A	
— up to 400 V for current peak value n=20 rated value	5.3 A	
— up to 500 V for current peak value n=20 rated value	5.3 A	
— up to 690 V for current peak value n=20 rated value	5 A	
• at AC-6a		
— up to 230 V for current peak value n=30 rated value	3.5 A	
— up to 400 V for current peak value n=30 rated value	3.5 A	
— up to 500 V for current peak value n=30 rated value	3.6 A	
— up to 690 V for current peak value n=30 rated value	3.3 A	
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm ²	
operational current for approx. 200000 operating cycles at AC-4		
• at 400 V rated value	4.1 A	
• at 690 V rated value	3.3 A	
operational current		
• at 1 current path at DC-1		
— at 24 V rated value	20 A	
— at 110 V rated value	2.1 A	
— at 220 V rated value	0.8 A	
— at 440 V rated value	0.6 A	
— at 600 V rated value	0.6 A	
• with 2 current paths in series at DC-1		
— at 24 V rated value	20 A	
— at 110 V rated value	12 A	
— at 220 V rated value	1.6 A	
— at 440 V rated value	0.8 A	
— at 600 V rated value	0.7 A	
• with 3 current paths in series at DC-1		
— at 24 V rated value	20 A	
— at 110 V rated value	20 A	
— at 220 V rated value	20 A	
— at 440 V rated value	1.3 A	
— at 600 V rated value	1 A	
operational current		
• at 1 current path at DC-3 at DC-5		
— at 24 V rated value	20 A	

<ul style="list-style-type: none"> — at 110 V rated value • with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value • with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	0.1 A 20 A 0.35 A 20 A 20 A 1.5 A 0.2 A 0.2 A
operating power	
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value 	2.2 kW 4 kW 4 kW 5.5 kW
operating power for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> • at 400 V rated value • at 690 V rated value 	2 kW 2.5 kW
operating apparent power at AC-6a	
<ul style="list-style-type: none"> • up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value 	2 kV·A 3.6 kV·A 4.6 kV·A 5.9 kV·A
operating apparent power at AC-6a	
<ul style="list-style-type: none"> • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value 	1.3 kV·A 2.4 kV·A 3.1 kV·A 4 kV·A
short-time withstand current in cold operating state up to 40 °C	
<ul style="list-style-type: none"> • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum 	155 A; Use minimum cross-section acc. to AC-1 rated value 111 A; Use minimum cross-section acc. to AC-1 rated value 86 A; Use minimum cross-section acc. to AC-1 rated value 66 A; Use minimum cross-section acc. to AC-1 rated value 55 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
<ul style="list-style-type: none"> • at AC 	10 000 1/h
operating frequency	
<ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum 	1 000 1/h 750 1/h 750 1/h 250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
<ul style="list-style-type: none"> • at 50 Hz rated value • at 60 Hz rated value 	110 V 110 V
operating range factor control supply voltage rated value of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.8 ... 1.1 0.85 ... 1.1
apparent pick-up power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	27 V·A 24.3 V·A
inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.8 0.75

apparent holding power of magnet coil at AC	
• at 50 Hz	4.2 V·A
• at 60 Hz	3.3 V·A
inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
• at 60 Hz	0.25
closing delay	
• at AC	9 ... 35 ms
opening delay	
• at AC	3.5 ... 14 ms
arching time	10 ... 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value	10 A
• at 400 V rated value	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A
operational current at DC-12	
• at 24 V rated value	10 A
• at 48 V rated value	6 A
• at 60 V rated value	6 A
• at 110 V rated value	3 A
• at 125 V rated value	2 A
• at 220 V rated value	1 A
• at 600 V rated value	0.15 A
operational current at DC-13	
• at 24 V rated value	10 A
• at 48 V rated value	2 A
• at 60 V rated value	2 A
• at 110 V rated value	1 A
• at 125 V rated value	0.9 A
• at 220 V rated value	0.3 A
• at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	7.6 A
• at 600 V rated value	9 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	0.33 hp
— at 230 V rated value	1 hp
• for 3-phase AC motor	
— at 200/208 V rated value	2 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	5 hp
— at 575/600 V rated value	7.5 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
— with type of assignment 2 required	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)

- for short-circuit protection of the auxiliary switch required

gG: 10 A (500 V, 1 kA)

Installation/ mounting/ dimensions

mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
• side-by-side mounting	Yes
height	70 mm
width	45 mm
depth	73 mm
required spacing	
• with side-by-side mounting	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
• for grounded parts	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
• for live parts	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm

Connections/ Terminals

type of electrical connection	
• for main current circuit	spring-loaded terminals
• for auxiliary and control circuit	spring-loaded terminals
• at contactor for auxiliary contacts	Spring-type terminals
• of magnet coil	Spring-type terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (0.5 ... 4 mm ²)
— solid or stranded	2x (0.5 ... 4 mm ²)
— finely stranded with core end processing	2x (0.5 ... 2.5 mm ²)
— finely stranded without core end processing	2x (0.5 ... 2.5 mm ²)
• at AWG cables for main contacts	2x (20 ... 12)
connectable conductor cross-section for main contacts	
• solid	0.5 ... 4 mm ²
• stranded	0.5 ... 4 mm ²
• finely stranded with core end processing	0.5 ... 2.5 mm ²
• finely stranded without core end processing	0.5 ... 2.5 mm ²
connectable conductor cross-section for auxiliary contacts	
• solid or stranded	0.5 ... 4 mm ²
• finely stranded with core end processing	0.5 ... 2.5 mm ²
• finely stranded without core end processing	0.5 ... 2.5 mm ²
type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid or stranded	2x (0.5 ... 4 mm ²)
— finely stranded with core end processing	2x (0.5 ... 2.5 mm ²)
— finely stranded without core end processing	2x (0.5 ... 2.5 mm ²)
• at AWG cables for auxiliary contacts	2x (20 ... 12)
• AWG number as coded connectable conductor cross section for main contacts	20 ... 12

- AWG number as coded connectable conductor cross section for auxiliary contacts

20 ... 12

Safety related data

B10 value with high demand rate acc. to SN 31920	1 000 000
proportion of dangerous failures	
• with low demand rate acc. to SN 31920	40 %
• with high demand rate acc. to SN 31920	73 %
failure rate [FIT] with low demand rate acc. to SN 31920	100 FIT
product function	
• mirror contact acc. to IEC 60947-4-1	Yes
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
suitability for use safety-related switching OFF	Yes

Certificates/ approvals

General Product Approval	EMC
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KC



Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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LRS



[Confirmation](#)

other



[Confirmation](#)

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=3RT2016-2AF02>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-2AF02>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2AF02>

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

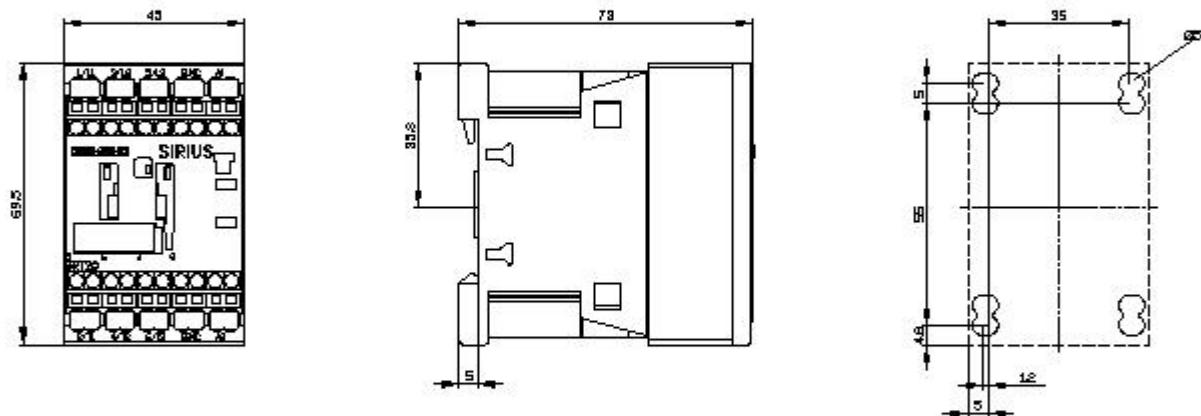
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-2AF02&lang=en

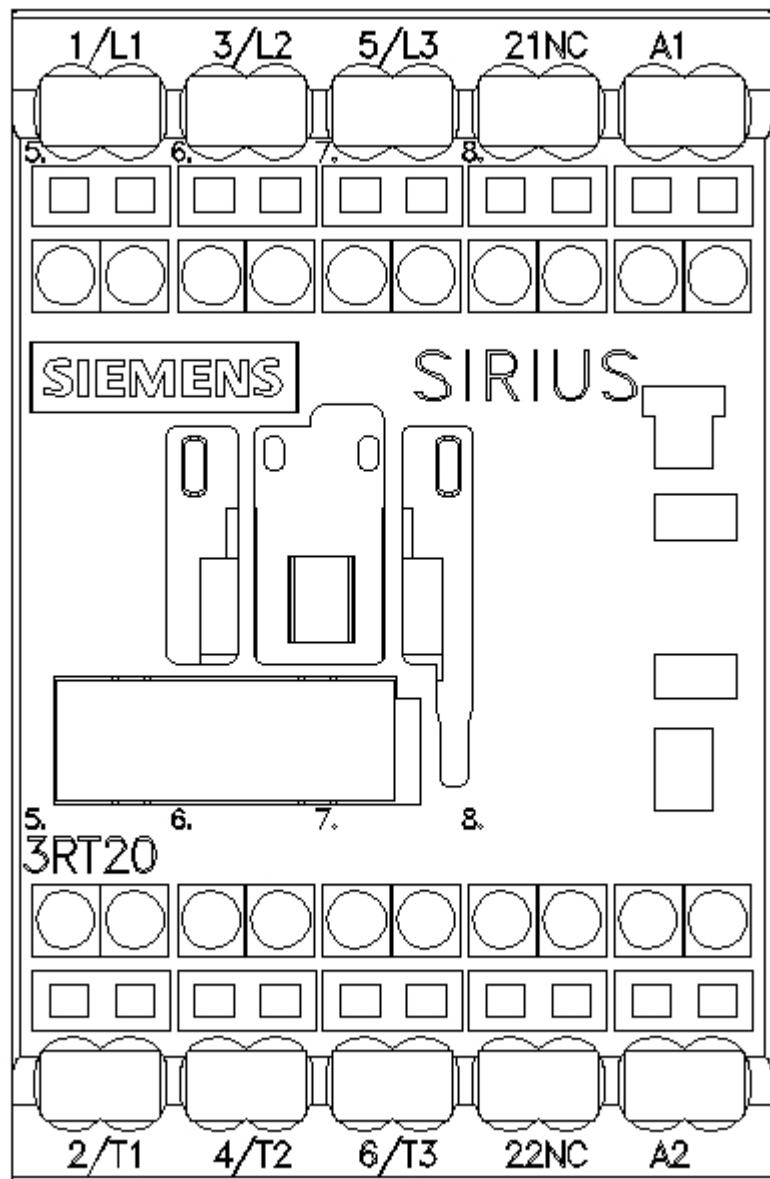
Characteristic: Tripping characteristics, I^ttr, Let-through current

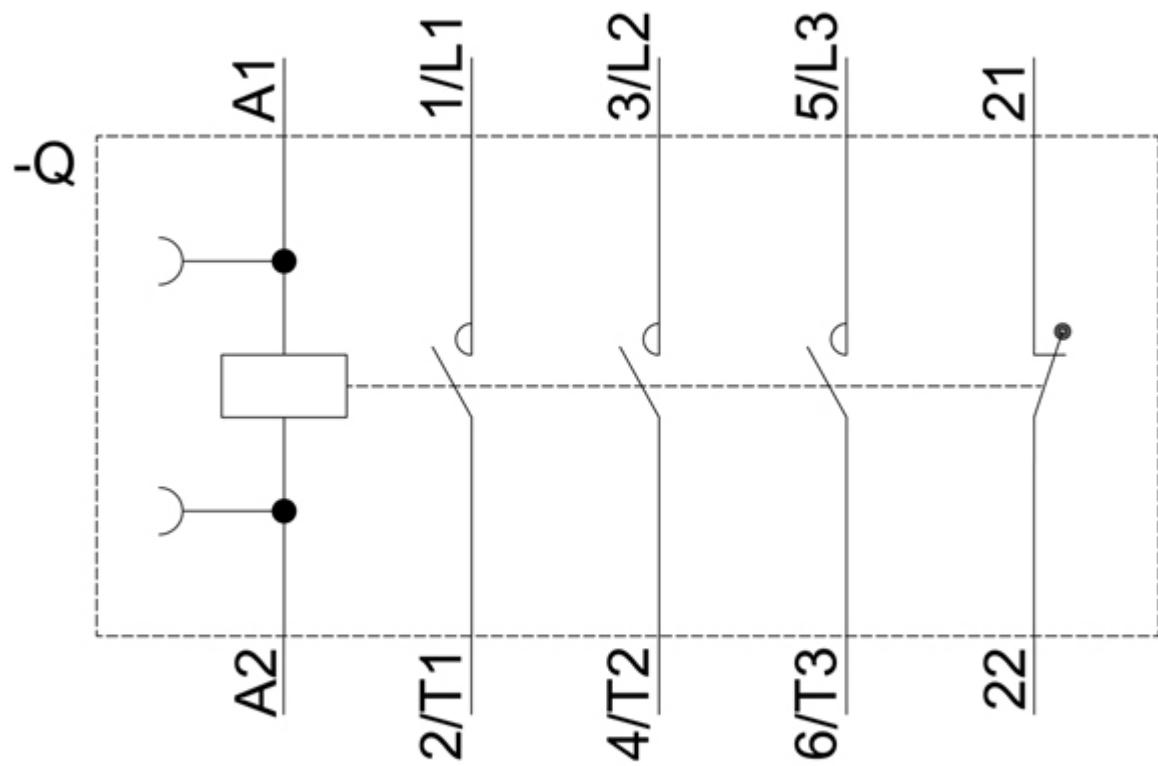
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2AF02/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2016-2AF02&objecttype=14&gridview=view1>







last modified:

1/18/2021