SIEMENS

Data sheet 3RT2017-2BB42



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 24 V DC, auxiliary contacts: 1 NC, spring-loaded terminal, size: S00 $\,$

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
product extension	
 function module for communication 	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	1.5 W
 at AC in hot operating state per pole 	0.5 W
without load current share typical	4 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
 of auxiliary circuit with degree of pollution 3 rated value 	690 V
surge voltage resistance	
 of main circuit rated value 	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	7.3g / 5 ms, 4.7g / 10 ms
shock resistance with sine pulse	
• at DC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (operating cycles)	
 of contactor typical 	30 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
Weight	0.311 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
during operation	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

Environmental footprint	
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	153 kg
global warming potential [CO2 eq] during manufacturing	1.42 kg
global warming potential [CO2 eq] during operation	152 kg
global warming potential [CO2 eq] after end of life	-0.305 kg
Main circuit	0.5550 Ng
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	. •
at AC-3 rated value maximum	690 V
at AC-3e rated value maximum	690 V
operational current	
 at AC-1 at 400 V at ambient temperature 40 °C rated value at AC-1 	22 A
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	22 A
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	20 A
• at AC-3	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value • at AC-3e	6.7 A
— at 400 V rated value	12 A
— at 500 V rated value	9.2 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 	9.9 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	7.2 A
— up to 400 V for current peak value n=20 rated value	7.2 A
— up to 500 V for current peak value n=20 rated value	7.2 A
up to 690 V for current peak value n=20 rated valueat AC-6a	6.7 A
— up to 230 V for current peak value n=30 rated value	4.8 A
— up to 400 V for current peak value n=30 rated value	4.8 A
— up to 500 V for current peak value n=30 rated value	4.8 A
— up to 690 V for current peak value n=30 rated value	4.8 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm²
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 60 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 reted value.	20.4
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	12 A
— at 220 V rated value — at 440 V rated value	1.6 A 0.8 A
— at 600 V rated value	0.7 A
— at 000 v rateu value	U.I A

with 3 current paths in series at DC-1	
— at 24 V rated value	20 A
— at 60 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
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 V rated value	0.5 A
— at 110 V rated value	0.15 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 110 V rated value	0.35 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
operating power	
• at AC-3	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	5.5 kW
• at AC-3e	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	5.5 kW
operating power for approx. 200000 operating cycles at AC-	
4	
• at 400 V rated value	2 kW
at 690 V rated value	2.5 kW
operating apparent power at AC-6a	
 up to 230 V for current peak value n=20 rated value 	2.8 kVA
 up to 400 V for current peak value n=20 rated value 	4.0 14/4
·	4.9 kVA
up to 500 V for current peak value n=20 rated value	6.2 kVA
• up to 500 V for current peak value n=20 rated value	6.2 kVA
 up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value 	6.2 kVA
up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a	6.2 kVA 8 kVA
up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value	6.2 kVA 8 kVA 1.9 kVA
up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA
up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a 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	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA
up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a 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 short-time withstand current in cold operating state up to	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA
up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a 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 short-time withstand current in cold operating state up to 40 °C	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA
up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a 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 up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C Imited to 1 s switching at zero current maximum	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA 200 A; Use minimum cross-section acc. to AC-1 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 operating apparent power at AC-6a 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 up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 5 s switching at zero current maximum	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA 200 A; Use minimum cross-section acc. to AC-1 rated value 123 A; Use minimum cross-section acc. to AC-1 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 operating apparent power at AC-6a 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 up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA 200 A; Use minimum cross-section acc. to AC-1 rated value 123 A; Use minimum cross-section acc. to AC-1 rated value 96 A; Use minimum cross-section acc. to AC-1 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 operating apparent power at AC-6a 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 short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA 200 A; Use minimum cross-section acc. to AC-1 rated value 123 A; Use minimum cross-section acc. to AC-1 rated value 96 A; Use minimum cross-section acc. to AC-1 rated value 74 A; Use minimum cross-section acc. to AC-1 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 operating apparent power at AC-6a 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 short-time withstand current in cold operating state up to 40 °C Ilimited to 1 s switching at zero current maximum Ilimited to 5 s switching at zero current maximum Ilimited to 30 s switching at zero current maximum Ilimited to 60 s switching at zero current maximum	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA 200 A; Use minimum cross-section acc. to AC-1 rated value 123 A; Use minimum cross-section acc. to AC-1 rated value 96 A; Use minimum cross-section acc. to AC-1 rated value 74 A; Use minimum cross-section acc. to AC-1 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 operating apparent power at AC-6a 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 up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C Ilmited to 1 s switching at zero current maximum Ilmited to 5 s switching at zero current maximum Ilmited to 30 s switching at zero current maximum Ilmited to 60 s switching at zero current maximum Ilmited to 60 s switching at zero current maximum	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA 200 A; Use minimum cross-section acc. to AC-1 rated value 123 A; Use minimum cross-section acc. to AC-1 rated value 96 A; Use minimum cross-section acc. to AC-1 rated value 74 A; Use minimum cross-section acc. to AC-1 rated value 61 A; Use minimum cross-section acc. to AC-1 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 operating apparent power at AC-6a 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 short-time withstand current in cold operating state up to 40 °C Ilimited to 1 s switching at zero current maximum Ilimited to 5 s switching at zero current maximum Ilimited to 30 s switching at zero current maximum Ilimited to 60 s switching at zero current maximum Ilimited to 60 s switching at zero current maximum no-load switching frequency at DC	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA 200 A; Use minimum cross-section acc. to AC-1 rated value 123 A; Use minimum cross-section acc. to AC-1 rated value 96 A; Use minimum cross-section acc. to AC-1 rated value 74 A; Use minimum cross-section acc. to AC-1 rated value 61 A; Use minimum cross-section acc. to AC-1 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 operating apparent power at AC-6a 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 short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 5 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum no-load switching frequency at DC operating frequency	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA 200 A; Use minimum cross-section acc. to AC-1 rated value 123 A; Use minimum cross-section acc. to AC-1 rated value 96 A; Use minimum cross-section acc. to AC-1 rated value 74 A; Use minimum cross-section acc. to AC-1 rated value 61 A; Use minimum cross-section acc. to AC-1 rated value 10 000 1/h
up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a 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 short-time withstand current in cold operating state up to 40 °C Ilimited to 1 s switching at zero current maximum Ilimited to 5 s switching at zero current maximum Ilimited to 30 s switching at zero current maximum Ilimited to 60 s switching at zero current maximum Ilimited to 60 s switching at zero current maximum no-load switching frequency at DC operating frequency at AC-1 maximum	6.2 kVA 8 kVA 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA 200 A; Use minimum cross-section acc. to AC-1 rated value 123 A; Use minimum cross-section acc. to AC-1 rated value 96 A; Use minimum cross-section acc. to AC-1 rated value 74 A; Use minimum cross-section acc. to AC-1 rated value 61 A; Use minimum cross-section acc. to AC-1 rated value 10 000 1/h

• at AC-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC rated value	24 V
	Z4 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.8
full-scale value	1.1
closing power of magnet coil at DC	4 W
holding power of magnet coil at DC	4 W
closing delay	
• at DC	30 100 ms
opening delay	
• at DC	7 13 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous	1
contact	
operational current at AC-12 maximum	10 A
operational current at AC-15	40.4
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
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
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	11 A
at 600 V rated value at 600 V rated value	11 A
yielded mechanical performance [hp]	1171
• for single-phase AC motor	
— at 110/120 V rated value	0.5 hp
— at 110/120 V rated value — at 230 V rated value	2 hp
	ZIIP
• for 3-phase AC motor	2 hn
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	7.5 hp
— at 575/600 V rated value	10 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: 50A (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)
nstallation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward an backward by +/- 22.5° on vertical mounting surface
fastening method side-by-side mounting	Yes
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	70 mm
width	45 mm
depth	73 mm
required spacing	
with side-by-side mounting	10 mm
— forwards	10 mm
— upwards — downwards	10 mm
— at the side	0 mm
for grounded parts	O IIIIII
— 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
onnections/ 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 mm²)
— solid or stranded	2x (0,5 4 mm²)
 finely stranded with core end processing 	2x (0.5 2.5 mm²)
 finely stranded without core end processing 	2x (0.5 2.5 mm²)
for AWG cables for main contacts	2x (20 12)
connectable conductor cross-section for main contacts	
• solid	0.5 4 mm²
• stranded	0.5 4 mm²
finely stranded with core end processing	0.5 2.5 mm ²
finely stranded without core end processing	0.5 2.5 mm²
connectable conductor cross-section for auxiliary contacts	0.5 4 mm²
solid or stranded finely stranded with core and processing.	0.5 4 mm ²
finely stranded with core end processing finely stranded without core and processing	0.5 2.5 mm ²
finely stranded without core end processing type of connectable conductor cross sections	0.5 2.5 mm²
type of connectable conductor cross-sections • for auxiliary contacts	
for auxiliary contacts — solid or stranded	2v (0.5 4 mm²)
Solid of stranded finely stranded with core end processing	2x (0,5 4 mm²) 2x (0.5 2.5 mm²)
— finely stranded with core end processing — finely stranded without core end processing	2x (0.5 2.5 mm²)
Interly strained without core end processing for AWG cables for auxiliary contacts	2x (0.5 2.5 mirr) 2x (20 12)
AWG number as coded connectable conductor cross section	EX (EU 12)
for main contacts	20 12
for auxiliary contacts	20 12
afety related data	

 mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 suitable for safety function suitability for use safety-related switching OFF service life maximum 20 a test wear-related service life necessary proportion of dangerous failures
• suitable for safety function Yes suitability for use safety-related switching OFF Yes service life maximum 20 a test wear-related service life necessary Yes
suitability for use safety-related switching OFF Service life maximum 20 a test wear-related service life necessary Yes
service life maximum 20 a test wear-related service life necessary Yes
test wear-related service life necessary Yes
proportion of dangerous failures
• with low demand rate according to SN 31920 40 %
• with high demand rate according to SN 31920 73 %
B10 value with high demand rate according to SN 31920 1 000 000
failure rate [FIT] with low demand rate according to SN 100 FIT 31920
ISO 13849
device type according to ISO 13849-1 3
overdimensioning according to ISO 13849-2 necessary Yes
IEC 61508
safety device type according to IEC 61508-2 Type A
Electrical Safety
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
Approvals Certificates

General Product Approval



Confirmation



<u>KC</u>

General Product Ap-

EMV

Test Certificates

Marine / Shipping





Type Test Certificates/Test Report

Special Test Certificate





Marine / Shipping











Miscellaneous

other

other

Railway

Dangerous goods

Environment

Confirmation

Special Test Certific-<u>ate</u>

Transport Information



Environmental Confirmations

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=3RT2017-2BB42

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-2BB42

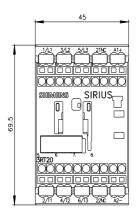
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

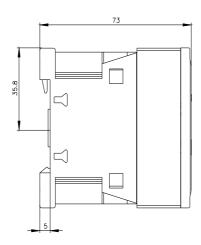
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2BB4

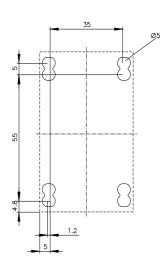
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

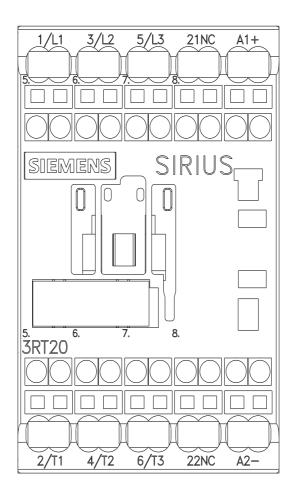
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-2BB42&lang=en

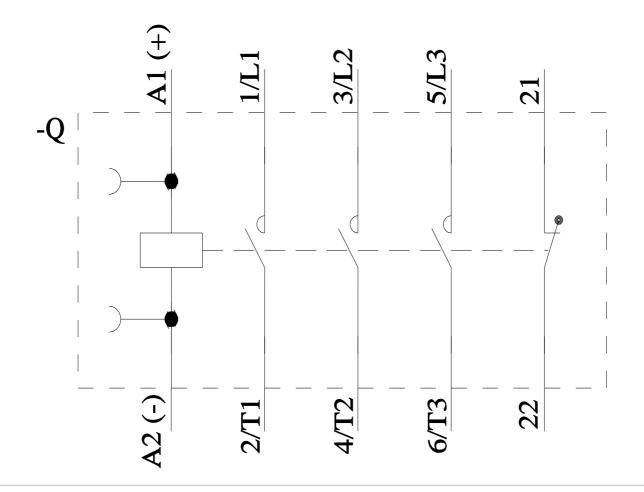
Characteristic: Tripping characteristics, I2t, Let-through current











last modified: 1/24/2025 🖸