# **SIEMENS**

Data sheet 3RV2041-4MA10



Circuit breaker size S3 for motor protection, CLASS 10 A-release 80...100 A N-release 1300 A screw terminal Standard switching capacity

product brand name	SIRIUS	
product designation	Circuit breaker	
design of the product	For motor protection	
product type designation	3RV2	
General technical data		
size of the circuit-breaker	S3	
size of contactor can be combined company-specific	S3	
product extension auxiliary switch	Yes	
power loss [W] for rated value of the current		
<ul> <li>at AC in hot operating state</li> </ul>	44 W	
<ul> <li>at AC in hot operating state per pole</li> </ul>	14.7 W	
insulation voltage with degree of pollution 3 at AC rated value	1 000 V	
surge voltage resistance rated value	8 kV	
shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus	
mechanical service life (operating cycles)		
<ul> <li>of the main contacts typical</li> </ul>	25 000	
<ul> <li>of auxiliary contacts typical</li> </ul>	25 000	
electrical endurance (operating cycles) typical	25 000	
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 02 ATEX F 001	
reference code according to IEC 81346-2	Q	
Substance Prohibitance (Date)	03/01/2017	
Ambient conditions		
installation altitude at height above sea level maximum	2 000 m	
ambient temperature		
<ul><li>during operation</li></ul>	-20 +60 °C	
during storage	-50 +80 °C	
<ul> <li>during transport</li> </ul>	-50 +80 °C	
relative humidity during operation	10 95 %	
Main circuit		
number of poles for main current circuit	3	
adjustable current response value current of the	80 100 A	
current-dependent overload release		
operating voltage		
rated value	20 690 V	
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V	
<ul> <li>at AC-3e rated value maximum</li> </ul>	690 V	
operating frequency rated value	50 60 Hz	
operational current rated value	100 A	

a   AC   3   4   400   V rated value   100   A     a   a   AC   3   4   400   V rated value   100   A     a   a   AC   3   4   400   V rated value   30   AW     a   a   a   a   a   a   a   a   a	onerational ourrant	
	operational current	100 Δ
a		
		100 A
at 230 V rated value		
at 400 V rated value		30 kW
at 500 V rated value 90 kW		
■ at AC-3e		
at 230 V rated value		OU KVV
		30 kW
at 500 V rated value 90 kW		
- at 690 V rated value operating frequency • at AC-3e maximum  Protective and monitoring functions  product function • ground fault detection • phase failure detection rip class design of the overload release maximum short-circuit current breaking capacity (Icu) • at AC at 240 V rated value • at AC at 240 V rated value • at AC at 250 V rated value • at AC at 500 V rated value • at AC at 500 V rated value • at AC at 500 V rated value • at 40 V rated value • at 40 V rated value • at 400 V rated value • at 400 V rated value • at 500 V rated value • at 600 V rated value • at 400 V rated value • at 500 V rated value • at 400 V rated value • at 500 V rated value • at 575000 V rated value • at 400 V rated v		
operating frequency		
e at AC-3 maximum e at AC-3 maximum 15 1/h Protective and monitoring functions  product function e ground fault detection e phase failure detection trip class design of the overload release maximum short-circuit current breaking capacity (Icu) e at AC at 240 V rated value e at AC at 400 V rated value e at AC at 500 V rated value e at AC at 500 V rated value e at AC at 500 V rated value e at 40 V rated value e at 400 V rated value e at 600 V rated value e at 400 V rated value e at 200 V rated value e at 500 V rated value e at 50		
Protective and monitoring functions  product function		15 1/h
product function	at AC-3e maximum	15 1/h
product function	Protective and monitoring functions	
• ground fault detection  • phase failure detection  trip class  design of the overload release maximum short-circuit current breaking capacity (Icu)  • at AC at 24 0V rated value  • at AC at 4500 V rated value  • at AC at 500 V rated value  • at AC at 500 V rated value  • at AC at 690 V rated value  • at 240 V rated value  • at 400 V rated value  • at 400 V rated value  • at 500 V rated value  • at 690 V rated value  • at 100 A   **Till-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 690 V rated value  • at 200 V rated value  • at 690 V rated value  • for 3-phase AC motor  • at 200/280 V rated value  • at 57.5 hp  • at 220/230 V rated value  • at 57.6 hp  •		
phase failure detection trip class class of the overload release maximum short-circuit current breaking capacity (Icu)  at AC at 240 V rated value at AC at 400 V rated value at AC at 500 V rated value be at AC at 500 V rated value at AC at 500 V rated value be at AC at 500 V rated value at AC at 500 V rated value be at AC at 500 V rated value operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 600 V rated value at 600 V rated value at 600 V rated value be at 600 V rated value be at 600 V rated value at 600 V rated value at 600 V rated value be at 600 V rated value at 600 V rated value at 600 V rated value be at 600 V rated value at 600 V rated value at 600 V rated value be at 600 V rated value at 600 V rated value be at 600 V rated value at 600 V rated value be at 600 V rated value at 600 V rated value be at 600 V rated value at 600 V rated value at 600 V rated value be at 600 V rated value at 600 V rated value be at 600 V rated value at 600 V rated value be at 600 V rated value at 600 V rated value be at 600 V rated value at 600	•	No
trip class dosign of the overload release maximum short-circuit current breaking capacity (Icu)  • at AC at 240 V rated value • at AC at 500 V rated value • at AC at 500 V rated value • at AC at 500 V rated value • at AC at 600 V rated value • at 240 V rated value • at 500 V rated value • at 500 V rated value • at 600 V rated value • at 400 V rated value • at 400 V rated value • at 600 V rated value • at 400 V rated value • at 600 V rated value • at 400 V rated value • at 600 V rated value • at 300 V rated value • at 600 V rated value • at 300 V rated value • at 600 V rated value • at 7.5 hp  - at 110/120 V rated value • for 3-phase AC motor  - at 200/208 V rated value • for 3-phase AC motor  - at 200/208 V rated value - at 460/480 V rated value - at 460/480 V rated value - at 575/600 V rated value - at 576/600 V rated value - at 676/600 V		
design of the overload release maximum short-circuit current breaking capacity (Icu)  at AC at 240 V rated value bit AC at 240 V rated value at AC at 690 V rated value bit AC at 690 V rated value at AC at 690 V rated value bit AC at 690 V rated value at AC at 690 V rated value bit AC  at 240 V rated value bit AC  at 240 V rated value bit AC  at 400 V rated value bit AC  at 400 V rated value bit AC  at 500 V rated value bit S00 V rated va	•	
maximum short-circuit current breaking capacity (lcu)  • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 400 V rated value • at AC at 690 V rated value • at 400 V rated value • at 400 V rated value • at 400 V rated value • at 600 V rated value • at 690 V rated value • at 890 V rated value • at 690 V rated value • at 110/120 V rated value • for 3-phase AC motor • at 480/480 V rated value • at 220/230 V rated value • at 220/230 V rated value • at 460/480 V rated value • at 4575/600 V rated value • 75 hp • at 4575/600 V rated value  Product function short circuit protection design of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position fastening method  screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height width  70 mm		thermal
at AC at 240 V rated value at AC at 400 V rated value at AC at 500 V rated value at AC at 500 V rated value beta 4 AC at 690 V rated value at AC at 690 V rated value beta 4 AC at 690 V rated value at AC at 400 V rated value at 500 V rated value at 500 V rated value at 500 V rated value at 690 V rated value at 600 V rated value beta 480 V rated value at 600 V rated value at 600 V rated value beta 480 V rated value at 600 V rated value beta 480 V rated value at 600 V rated value beta 480 V rated valu	_	
at AC at 500 V rated value at AC at 500 V rated value berating short-circuit current breaking capacity (Ics) at AC  at 240 V rated value at 400 V rated value at 400 V rated value at 500 V rated value at 600 V rated value bereformance [hp]  for single-phase AC motor at 110/120 V rated value at 200 V palue for 3-phase AC motor at 200/208 V rated value bereformance [hp] at 200/208 V rated value at 200/208 V rated value bereformance [hp] at 400 V rated value bereformance [hp] at 200/208 V rated value at 200/208 V rated value bereformance [hp] at 400 V rated value bereformance [hp] at 400 V rated value at 200/208 V rated value bereformance [hp] at 400 V rated value bereformance [hp] at 400 V rated value bereformance [hp] at 400 V rated value bereformance [hp] at 200/208 V rated value bereformance [hp] at 400 V rated value beref		100 kA
at AC at 690 V rated value operating short-circuit current breaking capacity (Ics) at AC  at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit   UL/CSA ratings  full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value at 600 V rated value at 600 V rated value before single-phase AC motor at 110/120 V rated value at 230 V rated value at 230 V rated value at 200 v rated value at 200 v rated value at 200 v rated value at 200/208 V rated value at 460/480 V rated value at 460/480 V rated value at 460/480 V rated value at 575/600 V rated value at 600 V ra	<ul> <li>at AC at 400 V rated value</li> </ul>	65 kA
operating short-circuit current breaking capacity (Ics) at AC  • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value  response value current of instantaneous short-circuit trip unit  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value	<ul> <li>at AC at 500 V rated value</li> </ul>	8 kA
at AC  at 240 V rated value at 400 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value at 600 V rated value for single-phase AC motor at 110/120 V rated value at 230 V rated value at 220/230 V rated value at 220/230 V rated value at 480/480 V rated value at 480/480 V rated value at 480/480 V rated value at 575/600 V rated value yielded mechanical performance [hp] at 2575/600 V rated value at 2575/600 V rated value at 2575/600 V rated value at 600 V rated value at	<ul> <li>at AC at 690 V rated value</li> </ul>	5 kA
at 400 V rated value at 500 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value at 600 V rated value for single-phase AC motor - at 110/120 V rated value - at 230 V rated value 5 of phase AC motor - at 110/120 V rated value - at 220/230 V rated value - at 220/230 V rated value - at 220/230 V rated value - at 460/480 V rated value - at 575/600 V rated value - at 575/600 V rated value - at 575/600 V rated value - at 680/480 V rated value - at 680/75600		
at 500 V rated value at 690 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit  ULICSA ratings  full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value at 600 V rated value for single-phase AC motor - at 110/120 V rated value af 607 V rated value af 607 V rated value at 220/230 V rated value at 220/230 V rated value at 220/230 V rated value at 57 hp bootton tricuit protection product function short circuit protection design of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position fastening method  at 80 N rated value and so AR	<ul><li>at 240 V rated value</li></ul>	100 kA
at 690 V rated value response value current of instantaneous short-circuit trip unit  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor	<ul><li>at 400 V rated value</li></ul>	30 kA
response value current of instantaneous short-circuit trip unit  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value 100 A  • at 600 V rated value 100 A  yielded mechanical performance [hp]  • for single-phase AC motor  — at 110/120 V rated value 20 hp — at 230 V rated value 20 hp  • for 3-phase AC motor — at 200/208 V rated value 30 hp — at 220/230 V rated value 40 hp — at 450/480 V rated value 75 hp — at 4575/600 V rated value 100 hp  Short-circuit protection  product function short circuit protection design of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  height width 70 mm	<ul><li>at 500 V rated value</li></ul>	4 kA
unit  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value 100 A  • at 600 V rated value 100 A  yielded mechanical performance [hp]  • for single-phase AC motor  — at 110/120 V rated value 20 hp  • for 3-phase AC motor  — at 230 V rated value 20 hp  • for 3-phase AC motor  — at 200/208 V rated value 30 hp  — at 220/230 V rated value 40 hp  — at 460/480 V rated value 75 hp  — at 575/600 V rated value 100 hp  Short-circuit protection  product function short circuit protection 4esign of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  height 165 mm width 70 mm	<ul> <li>at 690 V rated value</li> </ul>	3 kA
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value  • for single-phase AC motor  — at 110/120 V rated value  • for 3-phase AC motor  — at 230 V rated value  • for 3-phase AC motor  — at 200/208 V rated value  — at 220/230 V rated value  — at 460/480 V rated value  — at 575/600 V rated value  — at 575/600 V rated value  — at source trunction short circuit protection  design of the short-circuit trip  Installation/ mounting/ dimensions  mounting position fastening method  height width  100 A  100		1 300 A
<ul> <li>at 480 V rated value</li> <li>at 600 V rated value</li> <li>yielded mechanical performance [hp]</li> <li>for single-phase AC motor</li></ul>	UL/CSA ratings	
• at 600 V rated value  yielded mechanical performance [hp]      • for single-phase AC motor     — at 110/120 V rated value     — at 230 V rated value     — at 2200/208 V rated value     — at 220/230 V rated value     — at 220/230 V rated value     — at 460/480 V rated value     — at 460/480 V rated value     — at 575/600 V rated value     — at 575/600 V rated value     To hp  Product function short circuit protection  product function short circuit trip  magnetic  Installation/ mounting/ dimensions  mounting position fastening method  screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height width  165 mm vidth  70 mm	full-load current (FLA) for 3-phase AC motor	
yielded mechanical performance [hp]  • for single-phase AC motor  — at 110/120 V rated value — at 230 V rated value 20 hp  • for 3-phase AC motor — at 200/208 V rated value 30 hp — at 220/230 V rated value 40 hp — at 460/480 V rated value 75 hp — at 575/600 V rated value 100 hp  Short-circuit protection  product function short circuit protection design of the short-circuit trip  Installation/ mounting/ dimensions  mounting position fastening method  screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height width 70 mm	<ul> <li>at 480 V rated value</li> </ul>	100 A
for single-phase AC motor         — at 110/120 V rated value         — at 230 V rated value         — at 230 V rated value         • for 3-phase AC motor         — at 200/208 V rated value         — at 220/230 V rated value         — at 460/480 V rated value         — at 575/600 V rated value         — at 575/600 V rated value         — at 575/600 V rated value	<ul> <li>at 600 V rated value</li> </ul>	100 A
- at 110/120 V rated value - at 230 V rated value 9 for 3-phase AC motor - at 200/208 V rated value 30 hp - at 220/230 V rated value 40 hp - at 460/480 V rated value 75 hp - at 575/600 V rated value 100 hp  Short-circuit protection product function short circuit protection design of the short-circuit trip Installation/ mounting/ dimensions mounting position fastening method fastening method height width 7.5 hp 20 hp 40 hp 75 hp 100 hp 75 hp 100 hp	yielded mechanical performance [hp]	
- at 230 V rated value  • for 3-phase AC motor  - at 200/208 V rated value 30 hp  - at 220/230 V rated value 40 hp  - at 460/480 V rated value 75 hp  - at 575/600 V rated value 100 hp  Short-circuit protection product function short circuit protection design of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position any fastening method screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  height height 165 mm width 70 mm	<ul> <li>for single-phase AC motor</li> </ul>	
for 3-phase AC motor         — at 200/208 V rated value         — at 220/230 V rated value         — at 460/480 V rated value         — at 575/600 V rated value         — at 575/600 V rated value         — both circuit protection  product function short circuit protection design of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position fastening method  any fastening method  screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  height width  70 mm	<ul> <li>— at 110/120 V rated value</li> </ul>	7.5 hp
- at 200/208 V rated value - at 220/230 V rated value - at 460/480 V rated value - at 575/600 V rated value - at 575/600 V rated value  Short-circuit protection  product function short circuit protection design of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position fastening method any fastening method beight height width  30 hp 40 hp		20 hp
- at 220/230 V rated value 40 hp - at 460/480 V rated value 75 hp - at 575/600 V rated value 100 hp  Short-circuit protection  product function short circuit protection design of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position any fastening method screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  height 165 mm width 70 mm	·	
- at 460/480 V rated value 75 hp - at 575/600 V rated value 100 hp  Short-circuit protection  product function short circuit protection design of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  height 165 mm width 70 mm		·
— at 575/600 V rated value 100 hp  Short-circuit protection  product function short circuit protection design of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position any fastening method screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  height 165 mm width 70 mm		
Short-circuit protection  product function short circuit protection design of the short-circuit trip Installation/ mounting/ dimensions mounting position fastening method any form 60715 height width Yes magnetic any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715		·
product function short circuit protection design of the short-circuit trip Installation/ mounting/ dimensions mounting position fastening method any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height 165 mm width 70 mm		100 hp
design of the short-circuit trip magnetic  Installation/ mounting/ dimensions  mounting position any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  height 165 mm width 70 mm	· · · · · · · · · · · · · · · · · · ·	
Installation/ mounting/ dimensions  mounting position fastening method  any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height height width  70 mm		Yes
mounting position fastening method screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height width form		magnetic
fastening method  screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  height width  screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  nem	Installation/ mounting/ dimensions	
height 165 mm width 70 mm		any
width 70 mm	fastening method	
	_	
depth 176 mm		
		176 mm
required spacing		
• with side-by-side mounting at the side 0 mm		0 mm
• for grounded parts at 400 V		70 mm
— downwards 70 mm	— downwards	/U IIIIII

- upwards 70 mm - at the side 10 mm • for live parts at 400 V - downwards 70 mm - upwards 70 mm 10 mm - at the side • for grounded parts at 500 V - downwards 110 mm - upwards 110 mm - at the side 10 mm • for live parts at 500 V 110 mm - downwards 110 mm - upwards at the side 10 mm • for grounded parts at 690 V - downwards 150 mm — upwards 150 mm 30 mm - at the side • for live parts at 690 V - downwards 150 mm - upwards 150 mm - at the side 30 mm

#### Connections/ Terminals

# type of electrical connection

• for main current circuit

arrangement of electrical connectors for main current circuit

type of connectable conductor cross-sections

• for main contacts

— solid— solid or stranded

— finely stranded with core end processing

— finely stranded without core end processing

tightening torque

for main contacts for ring cable lug

outer diameter of the usable ring cable lug maximum tightening torque

• for main contacts with screw-type terminals

screw-type terminals

Top and bottom

2x (2.5 ... 16 mm<sup>2</sup>)

 $2x (2,5 \dots 50 \text{ mm}^2), 1x (10 \dots 70 \text{ mm}^2)$ 

2x (2.5 ... 35 mm²), 1x (2.5 ... 50 mm²)

2x (10 ... 35 mm²), 1x (10 ... 50 mm²)

4.5 ... 6 N·m

19 mm

4.5 ... 6 N·m

# Safety related data

### B10 value

with high demand rate according to SN 31920
 5 000

proportion of dangerous failures

• with low demand rate according to SN 31920

with high demand rate according to SN 31920

T1 value for proof test interval or service life according to IEC 61508

protection class IP on the front according to IEC 60529

touch protection on the front according to IEC 60529

discolor protection on the front according to in

display version for switching status

50 %

EO 0/

50 %

10 y

IP20

finger-safe, for vertical contact from the front

Handle

# Certificates/ approvals

# **General Product Approval**





Confirmation



<u>KC</u>



For use in hazardous locations

**Declaration of Conformity** 

**Test Certificates** 









Type Test Certificates/Test Report

Special Test Certificate

# Marine / Shipping













Marine / Shipping

other

Railway



Confirmation



Confirmation

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=3RV2041-4MA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2041-4MA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2041-4MA10

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

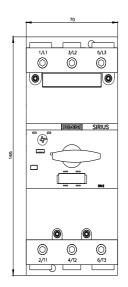
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2041-4MA10&lang=en

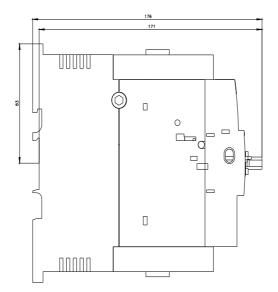
Characteristic: Tripping characteristics, I2t, Let-through current

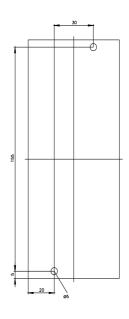
 $\underline{https://support.industry.siemens.com/cs/ww/en/ps/3RV2041-4MA10/char}$ 

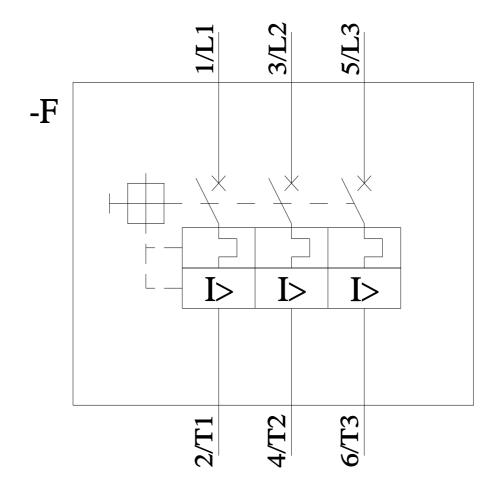
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2041-4MA10&objecttype=14&gridview=view1









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