



Circuit breaker size S0 for motor protection, CLASS 10 A-release 16...22 A
N-release 286 A Spring-type 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	S0
size of contactor can be combined company-specific	S00, S0
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	10.5 W
• at AC in hot operating state per pole	3.5 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation in networks with grounded star point	
• between main and auxiliary circuit	400 V
• between main and auxiliary circuit	400 V
shock resistance acc. to IEC 60068-2-27	25g / 11 ms
mechanical service life (switching cycles)	
• of the main contacts typical	100 000
• of auxiliary contacts typical	100 000
electrical endurance (switching cycles) typical	100 000
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 acc. to IEC 81346-2	Q
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
• ambient temperature during operation	-20 ... +60 °C
• ambient temperature during storage	-50 ... +80 °C
• ambient temperature during transport	-50 ... +80 °C
temperature compensation	-20 ... +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	16 ... 22 A

current-dependent overload release	
<ul style="list-style-type: none"> operating voltage rated value 	690 V
<ul style="list-style-type: none"> operating voltage at AC-3 rated value maximum 	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	22 A
operational current at AC-3 at 400 V rated value	22 A
operating power at AC-3	
<ul style="list-style-type: none"> at 230 V rated value 	5 500 W
<ul style="list-style-type: none"> at 400 V rated value 	11 000 W
<ul style="list-style-type: none"> at 500 V rated value 	11 000 W
<ul style="list-style-type: none"> at 690 V rated value 	18 500 W
operating frequency at AC-3 maximum	15 1/h
Auxiliary circuit	
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	0
number of CO contacts for auxiliary contacts	0
Protective and monitoring functions	
product function	
<ul style="list-style-type: none"> ground fault detection 	No
<ul style="list-style-type: none"> phase failure detection 	Yes
trip class	CLASS 10
design of the overload release	thermal
breaking capacity operating short-circuit current (Ics) at AC	
<ul style="list-style-type: none"> at 240 V rated value 	100 kA
<ul style="list-style-type: none"> at 400 V rated value 	25 kA
<ul style="list-style-type: none"> at 500 V rated value 	5 kA
<ul style="list-style-type: none"> at 690 V rated value 	2 kA
breaking capacity maximum short-circuit current (Icu)	
<ul style="list-style-type: none"> at AC at 240 V rated value 	100 kA
<ul style="list-style-type: none"> at AC at 400 V rated value 	55 kA
<ul style="list-style-type: none"> at AC at 500 V rated value 	10 kA
<ul style="list-style-type: none"> at AC at 690 V rated value 	4 kA
response value current of instantaneous short-circuit trip unit	286 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
<ul style="list-style-type: none"> at 480 V rated value 	22 A
<ul style="list-style-type: none"> at 600 V rated value 	22 A
yielded mechanical performance [hp]	
<ul style="list-style-type: none"> for single-phase AC motor <ul style="list-style-type: none"> at 110/120 V rated value at 230 V rated value 	1.5 hp 3 hp
<ul style="list-style-type: none"> for 3-phase AC motor <ul style="list-style-type: none"> at 200/208 V rated value at 220/230 V rated value at 460/480 V rated value 	7.5 hp 7.5 hp 15 hp
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
design of the fuse link for IT network for short-circuit protection of the main circuit	
<ul style="list-style-type: none"> at 400 V 	gL/gG 63 A
<ul style="list-style-type: none"> at 500 V 	gL/gG 50 A
<ul style="list-style-type: none"> at 690 V 	gL/gG 50 A
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail

	according to DIN EN 60715
height	119 mm
width	45 mm
depth	97 mm
required spacing	
<ul style="list-style-type: none"> ● for grounded parts at 400 V <ul style="list-style-type: none"> — downwards 30 mm — upwards 30 mm — at the side 9 mm ● for live parts at 400 V <ul style="list-style-type: none"> — downwards 30 mm — upwards 30 mm — at the side 9 mm ● for grounded parts at 500 V <ul style="list-style-type: none"> — downwards 30 mm — upwards 30 mm — at the side 9 mm ● for live parts at 500 V <ul style="list-style-type: none"> — downwards 30 mm — upwards 30 mm — at the side 9 mm ● for grounded parts at 690 V <ul style="list-style-type: none"> — downwards 50 mm — upwards 50 mm — backwards 0 mm — at the side 30 mm — forwards 0 mm ● for live parts at 690 V <ul style="list-style-type: none"> — downwards 50 mm — upwards 50 mm — backwards 0 mm — at the side 30 mm — forwards 0 mm 	
Connections/ Terminals	
product function removable terminal for auxiliary and control circuit	No
type of electrical connection	
<ul style="list-style-type: none"> ● for main current circuit 	spring-loaded terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> ● for main contacts <ul style="list-style-type: none"> — solid or stranded 2x (1 ... 10 mm²) — finely stranded with core end processing 2x (1 ... 6 mm²) — finely stranded without core end processing 2x (1 ... 6 mm²) ● at AWG cables for main contacts 2x (18 ... 8) 	
design of screwdriver shaft	Diameter 3 mm
size of the screwdriver tip	3,0 x 0,5 mm
Safety related data	
B10 value	
<ul style="list-style-type: none"> ● with high demand rate acc. to SN 31920 	5 000
proportion of dangerous failures	
<ul style="list-style-type: none"> ● with low demand rate acc. to SN 31920 ● with high demand rate acc. to SN 31920 	50 % 50 %
failure rate [FIT]	
<ul style="list-style-type: none"> ● with low demand rate acc. to SN 31920 	50 FIT
T1 value for proof test interval or service life acc. to IEC 61508	10 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 version for switching status	Handle

Certificates/ approvals	
General Product Approval	For use in hazardous locations



[KC](#)



For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Confirmation](#)

other	Railway
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[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=3RV2021-4CA20>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4CA20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA20>

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

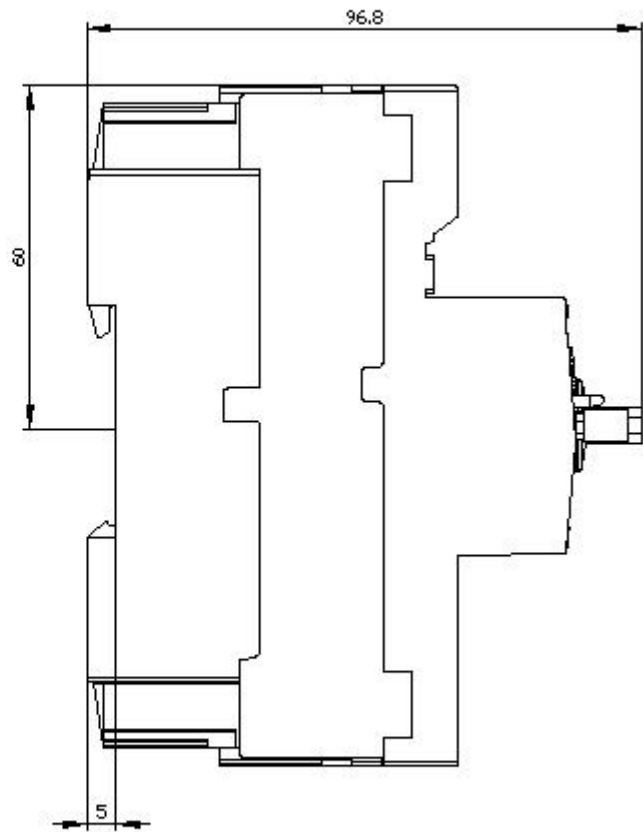
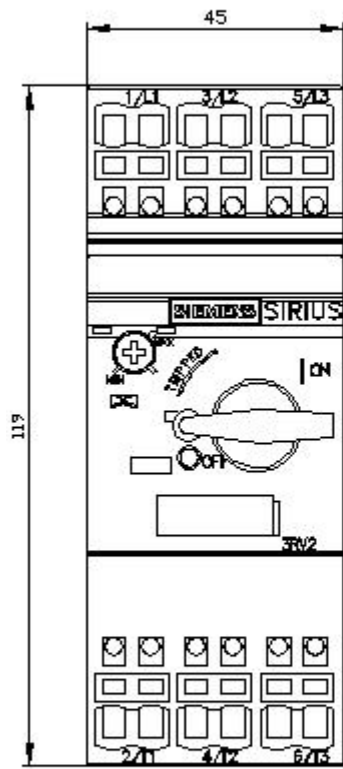
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4CA20&lang=en

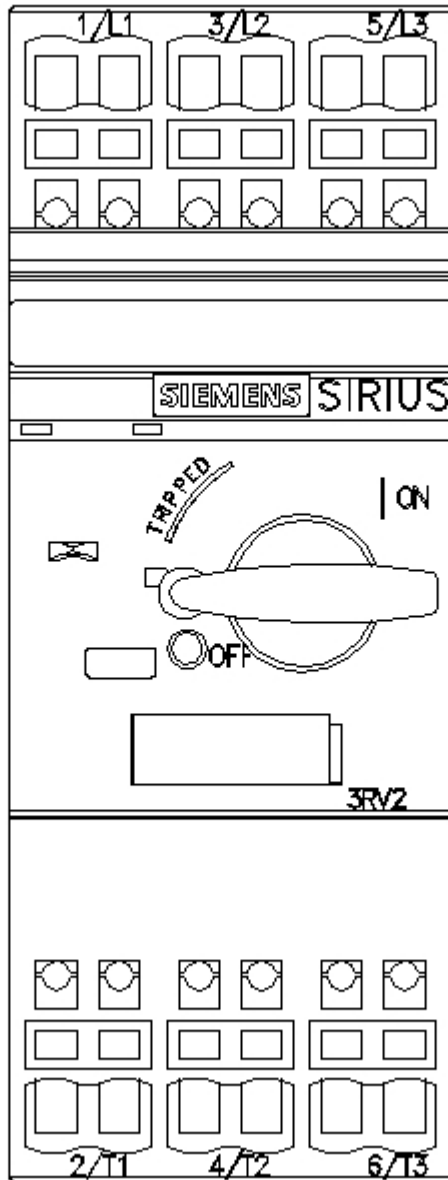
Characteristic: Tripping characteristics, I_t, Let-through current

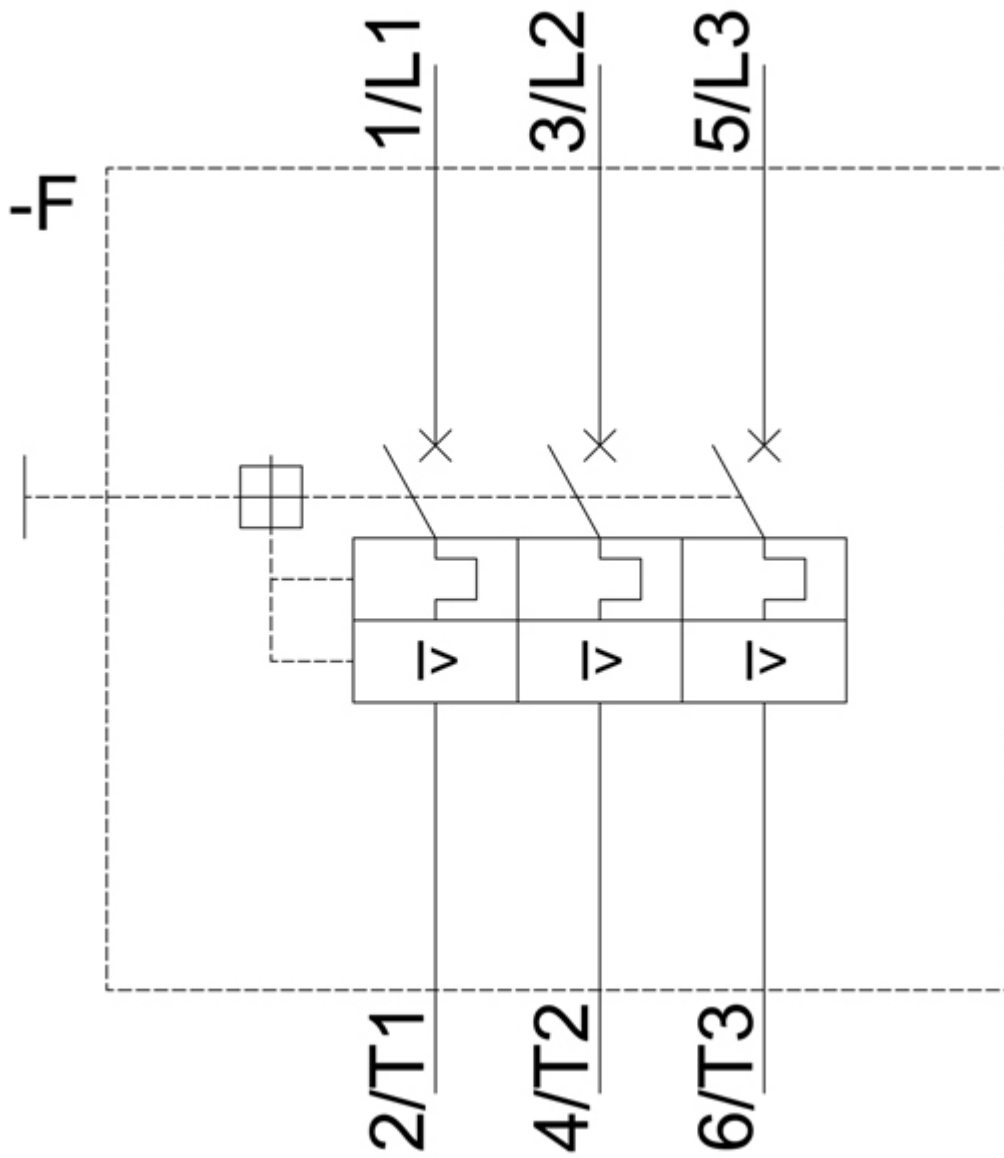
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA20/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4CA20&objecttype=14&gridview=view1>







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12/15/2020 