



Circuit breaker size S0 For transformer protection A-release 7...10 A Short-circuit release 208 A Screw terminal Standard switching capacity

product brand name	SIRIUS
product designation	Circuit breaker
design of the product	For transformer 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	9.25 W
• at AC in hot operating state per pole	3.1 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
shock resistance according 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
reference code according to IEC 81346-2	Q
Substance Prohibitive (Date)	10/01/2009
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-50 ... +80 °C
• during transport	-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 current-dependent overload release	7 ... 10 A
operating voltage	
• rated value	20 ... 690 V
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	10 A
operational current	
• at AC-3 at 400 V rated value	10 A

<ul style="list-style-type: none"> ● at AC-3e at 400 V rated value 	10 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 ● at AC-3e <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 5.5 kW 7.5 kW 2.2 kW 4 kW 5.5 kW 7.5 kW
operating frequency	
<ul style="list-style-type: none"> ● at AC-3 maximum ● at AC-3e maximum 	15 1/h 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 ● phase failure detection 	No Yes
trip class	CLASS 10
design of the overload release	thermal
breaking capacity maximum short-circuit current (Icu)	
<ul style="list-style-type: none"> ● at AC at 240 V rated value ● at AC at 400 V rated value ● at AC at 500 V rated value ● at AC at 690 V rated value 	100 kA 100 kA 42 kA 6 kA
breaking capacity operating short-circuit current (Ics) at AC	
<ul style="list-style-type: none"> ● at 240 V rated value ● at 400 V rated value ● at 500 V rated value ● at 690 V rated value 	100 kA 100 kA 42 kA 4 kA
response value current of instantaneous short-circuit trip unit	208 A
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 	10 A 10 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 ● 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 — at 575/600 V rated value 	0.5 hp 1.5 hp 2 hp 3 hp 5 hp 10 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 ● at 500 V ● at 690 V 	gL/gG 50 A gL/gG 40 A gL/gG 40 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	97 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	
type of electrical connection	
<ul style="list-style-type: none"> ● for main current circuit 	screw-type 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 ... 2.5 mm²), 2x (2.5 ... 10 mm²) — finely stranded with core end processing 2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm² ● at AWG cables for main contacts 2x (16 ... 12), 2x (14 ... 8) 	
tightening torque	
<ul style="list-style-type: none"> ● for main contacts with screw-type terminals 	2 ... 2.5 N·m
design of screwdriver shaft	Diameter 5 to 6 mm
size of the screwdriver tip	Pozidriv size 2
design of the thread of the connection screw	
<ul style="list-style-type: none"> ● for main contacts 	M4
Safety related data	
B10 value	
<ul style="list-style-type: none"> ● with high demand rate according to SN 31920 	5 000
proportion of dangerous failures	
<ul style="list-style-type: none"> ● with low demand rate according to SN 31920 ● with high demand rate according to SN 31920 	50 % 50 %
failure rate [FIT]	
<ul style="list-style-type: none"> ● with low demand rate according to SN 31920 	50 FIT
T1 value for proof test interval or service life according to IEC 61508	10 y

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 version for switching status	Handle

Certificates/ approvals

General Product Approval	Declaration of Conformity
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[Confirmation](#)



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

[Special Test Certificate](#)



Marine / Shipping	other
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[Confirmation](#)



Railway

[Vibration and Shock](#)

[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=3RV2421-1JA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2421-1JA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-1JA10>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2421-1JA10&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-1JA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2421-1JA10&objecttype=14&gridview=view1>

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