



Circuit breaker size S0 for transformer protection with approval circuit breaker UL 489, CSA C22.2 No.5-02 A-release 20 A N-release 325 A Screw terminal Standard switching capacity

product brand name	SIRIUS
product designation	Circuit breaker
design of the product	For transformer protection according to UL 489/CSA C22.2 No.5
product type designation	3RV2
General technical data	
size of the circuit-breaker	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
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 Prohibition (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
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	20 A
operational current	
• at AC-3 at 400 V rated value	20 A
• at AC-3e at 400 V rated value	20 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 	5.5 kW 7.5 kW 11 kW 15 kW 5.5 kW 7.5 kW 11 kW 15 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 No
design of the overload release	thermal
breaking capacity maximum short-circuit current (I_{cu})	
<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 at 480 AC Y/277 V according to UL 489 rated value 	100 kA 55 kA 10 kA 4 kA 50 kA
breaking capacity operating short-circuit current (I_{cs}) 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 25 kA 5 kA 2 kA
response value current of instantaneous short-circuit trip unit	325 A
UL/CSA ratings	
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 	1.5 hp 3 hp 5 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 63 A gL/gG 50 A 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 50022
height	144 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 — upwards — at the side ● for live parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side ● for grounded parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side ● for live parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side ● for grounded parts at 690 V <ul style="list-style-type: none"> — downwards — upwards — backwards — at the side — forwards ● for live parts at 690 V <ul style="list-style-type: none"> — downwards — upwards — backwards — at the side — forwards 	30 mm 30 mm 30 mm 30 mm 30 mm 30 mm 30 mm 30 mm 30 mm 70 mm 70 mm 0 mm 30 mm 0 mm 70 mm 70 mm 0 mm 30 mm 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 — finely stranded with core end processing ● at AWG cables for main contacts 	1 ... 10 mm ² , max. 2x 10 mm ² 1 ... 16 mm ² , max. 6 + 16 mm ² 2x (14 ... 10)
tightening torque	
<ul style="list-style-type: none"> ● for main contacts with screw-type terminals 	2.5 ... 3 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	

[Confirmation](#)[KC](#)Declaration of
Conformity

Test Certificates

Marine / Shipping



EG-Konf.

[Special Test Certificate](#)[Type Test Certificates/Test Report](#)BUREAU
VERITAS

LRS



RMRS

other

Railway

[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=3RV2821-4BD10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2821-4BD10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2821-4BD10>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2821-4BD10&lang=enCharacteristic: Tripping characteristics, I_t, Let-through current<https://support.industry.siemens.com/cs/ww/en/ps/3RV2821-4BD10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2821-4BD10&objecttype=14&gridview=view1>

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