

Siemens
EcoTech



circuit breaker frame size S0 for transformer protection with approval circuit breaker UL 489, CSA C22.2 no. 5-02 thermal overload release 20 A short-circuit 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	
Product equipment of circuit breaker for motor protection complete unit with protection device	Yes
size of the circuit-breaker	S0
product function disconnecter functionality	Yes
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
type of calculation of power loss current-dependent	quadratic
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
• in networks with ungrounded star point between main and auxiliary circuit	400 V
• in networks with grounded star point between main and auxiliary circuit	400 V
protection class IP	
• on the front according to IEC 60529	IP20
• on the front	IP20
• of the terminal	IP00
shock resistance according to IEC 60068-2-27	25 g / 11 ms (rectangular impulse and sine pulse)
mechanical service life (operating cycles)	
• of the main contacts typical	100 000
• of auxiliary contacts typical	100 000
electrical endurance (operating cycles) typical	100 000
reference code according to IEC 81346-2	Q
continuous current rated value	20 A
Substance Prohibitance (day/month/year)	10/01/2009
Net Weight	0.516 g
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	

<ul style="list-style-type: none"> during operation 	-20 ... +60 °C
<ul style="list-style-type: none"> during storage 	-50 ... +80 °C
<ul style="list-style-type: none"> 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
type of voltage for main current circuit	AC
operating voltage	
<ul style="list-style-type: none"> rated value 	690 V
<ul style="list-style-type: none"> rated value 	20 ... 690 V
<ul style="list-style-type: none"> at AC-3 rated value maximum 	690 V
<ul style="list-style-type: none"> at AC-3e rated value maximum 	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	20 A
operational current	
<ul style="list-style-type: none"> at AC-3 at 400 V rated value 	20 A
<ul style="list-style-type: none"> 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 	5.5 kW
<ul style="list-style-type: none"> at 400 V rated value 	7.5 kW
<ul style="list-style-type: none"> at 500 V rated value 	11 kW
<ul style="list-style-type: none"> at 690 V rated value 	15 kW
<ul style="list-style-type: none"> at AC-3e 	
<ul style="list-style-type: none"> at 230 V rated value 	5.5 kW
<ul style="list-style-type: none"> at 400 V rated value 	7.5 kW
<ul style="list-style-type: none"> at 500 V rated value 	11 kW
<ul style="list-style-type: none"> at 690 V rated value 	15 kW
operating frequency	
<ul style="list-style-type: none"> at AC-3 maximum 	15 1/h
<ul style="list-style-type: none"> at AC-3e maximum 	15 1/h

Auxiliary circuit

type of voltage for auxiliary and control circuit	AC/DC
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 	No
design of the overload release	thermal
protection function thermal overload protection (ANSI 49)	Yes
maximum short-circuit current breaking capacity (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
<ul style="list-style-type: none"> at 480 AC Y/277 V according to UL 489 rated value 	50 kA
operating short-circuit current breaking capacity (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
response value current of instantaneous short-circuit trip unit	325 A

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	

<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

product function suitable for safety function	Yes
suitability for use	
<ul style="list-style-type: none"> safety-related switching on 	No
<ul style="list-style-type: none"> safety-related switching OFF 	Yes
service life maximum	10 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
<ul style="list-style-type: none"> with low demand rate according to SN 31920 	40 %
<ul style="list-style-type: none"> with high demand rate according to SN 31920 	50 %
B10 value with high demand rate according to SN 31920	5 000
failure rate [FIT] with low demand rate according to SN 31920	50 FIT

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
T1 value	
<ul style="list-style-type: none"> for proof test interval or service life according to IEC 61508 	10 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

Display

display version for switching status	Handle
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Approvals Certificates

Environmental Product Declaration	
<ul style="list-style-type: none"> global warming potential [CO2 eq] / during manufacturing 	2.68 kg
<ul style="list-style-type: none"> global warming potential [CO2 eq] / during sales 	0.143 kg
<ul style="list-style-type: none"> global warming potential [CO2 eq] / during operation 	72.7 kg
<ul style="list-style-type: none"> global warming potential [CO2 eq] / after end of life 	-0.445 kg
<ul style="list-style-type: none"> global warming potential [CO2 eq] / total 	75.078 kg

Environment **General Product Approval**

[Environmental Confirmations](#)



General Product Approval **Test Certificates**



Maritime application **other**



Railway

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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>

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, ...)

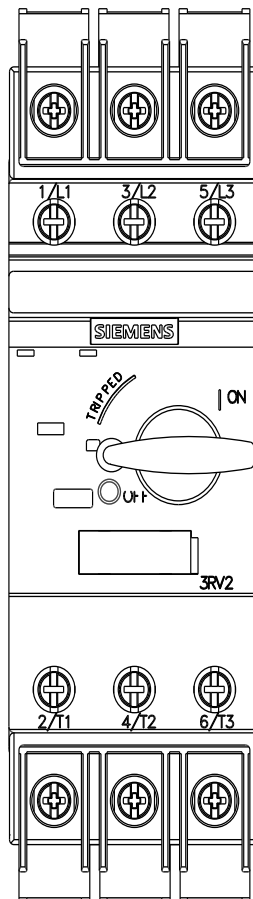
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2821-4BD10&lang=en

Cax online generator

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

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)





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