SIEMENS

Data sheet 3RV2821-4BD10

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 Prohibitance (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	

• at AC-3	
— at 230 V rated value	5.5 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	11 kW
— at 690 V rated value	15 kW
• at AC-3e	
— at 230 V rated value	5.5 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	11 kW
— at 690 V rated value	15 kW
operating frequency	
• at AC-3 maximum	15 1/h
• at AC-3e 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	
• ground fault detection	No
• phase failure detection	No
design of the overload release	thermal
breaking capacity maximum short-circuit current (Icu)	
• at AC at 240 V rated value	100 kA
• at AC at 400 V rated value	55 kA
• at AC at 500 V rated value	10 kA
• at AC at 690 V rated value	4 kA
• at 480 AC Y/277 V according to UL 489 rated value	50 kA
breaking capacity operating short-circuit current (Ics) at AC	
• at 240 V rated value	100 kA
• at 400 V rated value	25 kA
• at 500 V rated value	5 kA
• at 690 V rated value	2 kA
response value current of instantaneous short-circuit trip unit	325 A
UL/CSA ratings	
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	1.5 hp
— at 230 V rated value	3 hp
• for 3-phase AC motor	
— at 200/208 V rated value	5 hp
— at 220/230 V rated value	5 hp
— at 460/480 V rated value	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	
• at 400 V	gL/gG 63 A
• at 500 V	gL/gG 50 A
• 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 50022
height	144 mm
width	45 mm
depth	97 mm

required spacing	
● for grounded parts at 400 V	
— downwards	30 mm
— upwards	30 mm
— at the side	30 mm
● for live parts at 400 V	
— downwards	30 mm
— upwards	30 mm
— at the side	30 mm
● for grounded parts at 500 V	
— downwards	30 mm
— upwards	30 mm
— at the side	30 mm
● for live parts at 500 V	
— downwards	30 mm
— upwards	30 mm
— at the side	30 mm
● for grounded parts at 690 V	
— downwards	70 mm
— upwards	70 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
● for live parts at 690 V	
— downwards	70 mm
— upwards	70 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	
type of electrical connection	
● for main current circuit	screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections	
● for main contacts	
— solid or stranded	1 ... 10 mm², max. 2x 10 mm²
— finely stranded with core end processing	1 ... 16 mm², max. 6 + 16 mm²
● at AWG cables for main contacts	2x (14 ... 10)
tightening torque	
● 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	
● for main contacts	M4
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	50 %
● with high demand rate according to SN 31920	50 %
failure rate [FIT]	
● 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
CSA	Confirmation	UL	KC	EAC	UKCA

Declaration of Conformity	Test Certificates		Marine / Shipping		
CE EG-Konf.	Special Test Certific-ate	Type Test Certific-ates/Test Report	BUREAU VERITAS	Lloyd's Register LRS	RMRS

other		Railway
Confirmation	VDE	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=en
Characteristic: Tripping characteristics, I²t, 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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