

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
maximum permissible voltage for safe isolation	
• in networks with grounded 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	IP20
• of the terminal	IP00
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
Reference code acc. to DIN EN 81346-2	Q

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
Temperature compensation	-20 ... +60 °C
Relative humidity during operation	10 ... 95 %

Main circuit

Number of poles for main current circuit	3
Operating voltage	
• rated value	690 V
• at AC-3 rated value maximum	690 V
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	20 A
Operating current	
• at AC-3	
— at 400 V rated value	20 A
Operating power	
• at AC-3	
— at 230 V rated value	5 500 W
— at 400 V rated value	7 500 W
— at 500 V rated value	11 000 W
— at 690 V rated value	15 000 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	
• Ground fault detection	No
• Phase failure detection	No
Design of the overload release	thermal
Operational short-circuit current breaking capacity (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
Maximum short-circuit current breaking capacity (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 acc. to UL 489 rated value	50 000 A
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 three-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

Mounting type	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 30 mm — upwards 30 mm — Backwards 0 mm — at the side 30 mm — forwards 0 mm • for live parts at 400 V <ul style="list-style-type: none"> — downwards 30 mm — upwards 30 mm — Backwards 0 mm — at the side 30 mm — forwards 0 mm • for grounded parts at 500 V <ul style="list-style-type: none"> — downwards 30 mm — upwards 30 mm — Backwards 0 mm — at the side 30 mm — forwards 0 mm • for live parts at 500 V <ul style="list-style-type: none"> — downwards 30 mm — upwards 30 mm — Backwards 0 mm — at the side 30 mm — forwards 0 mm • for grounded parts at 690 V <ul style="list-style-type: none"> — downwards 70 mm — upwards 70 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 70 mm — upwards 70 mm — Backwards 0 mm — at the side 30 mm 	





Connections/ Terminals

Product function <ul style="list-style-type: none"> removable terminal for auxiliary and control circuit 	No
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"> single or multi-stranded finely stranded with core end processing at AWG conductors 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 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 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
Display version <ul style="list-style-type: none"> for switching status 	Handle

Certificates/ approvals

General Product Approval		Declaration of Conformity	Test Certificates
			
CSA	UL	EG-Konf.	

[Miscellaneous](#)

[Special Test Certificate](#)

Test Certificates	Marine / Shipping	other
		
		
	LRS	RMRS
		
		VDE

Railway

[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, ...)

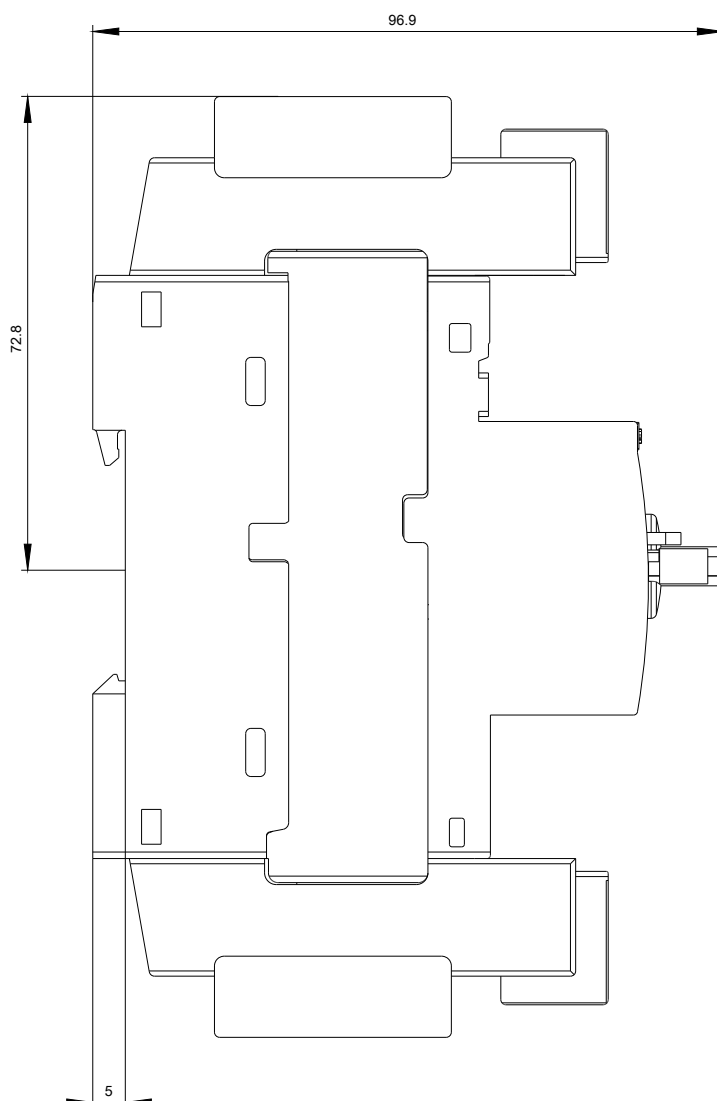
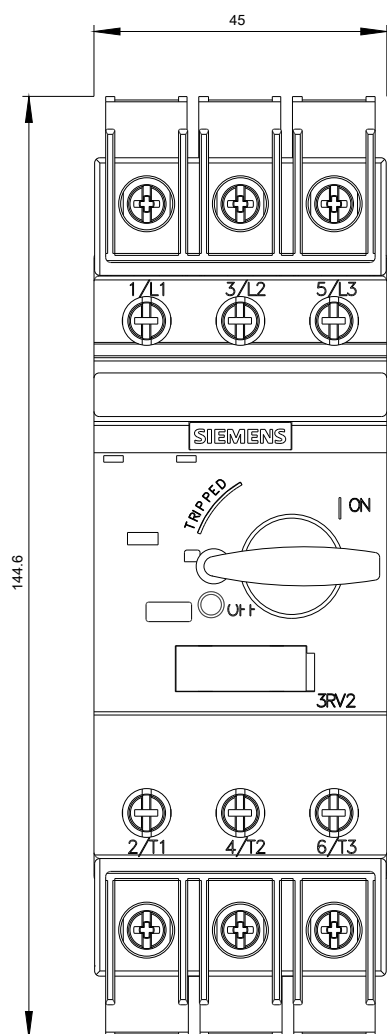
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2821-4BD10&lang=en

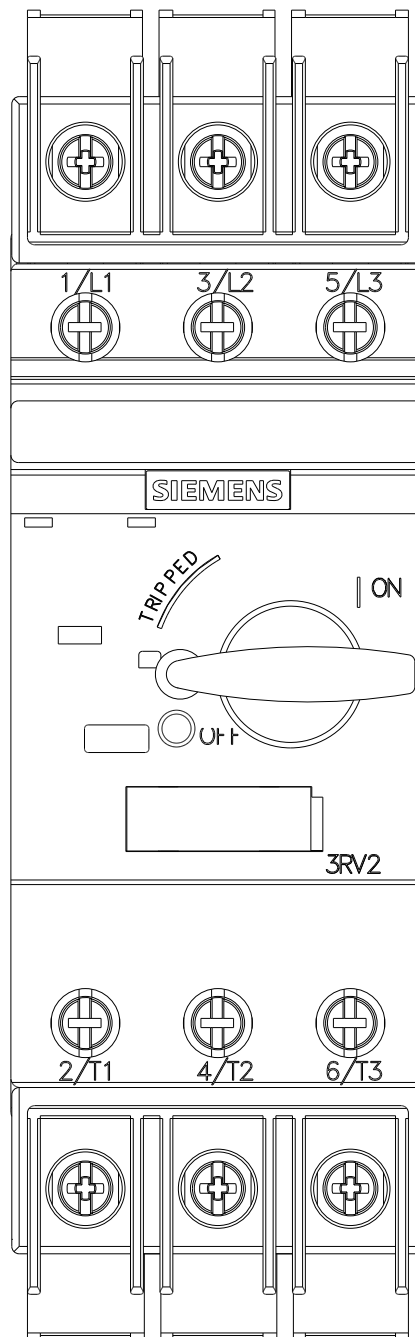
Characteristic: Tripping characteristics, I_t, Let-through current

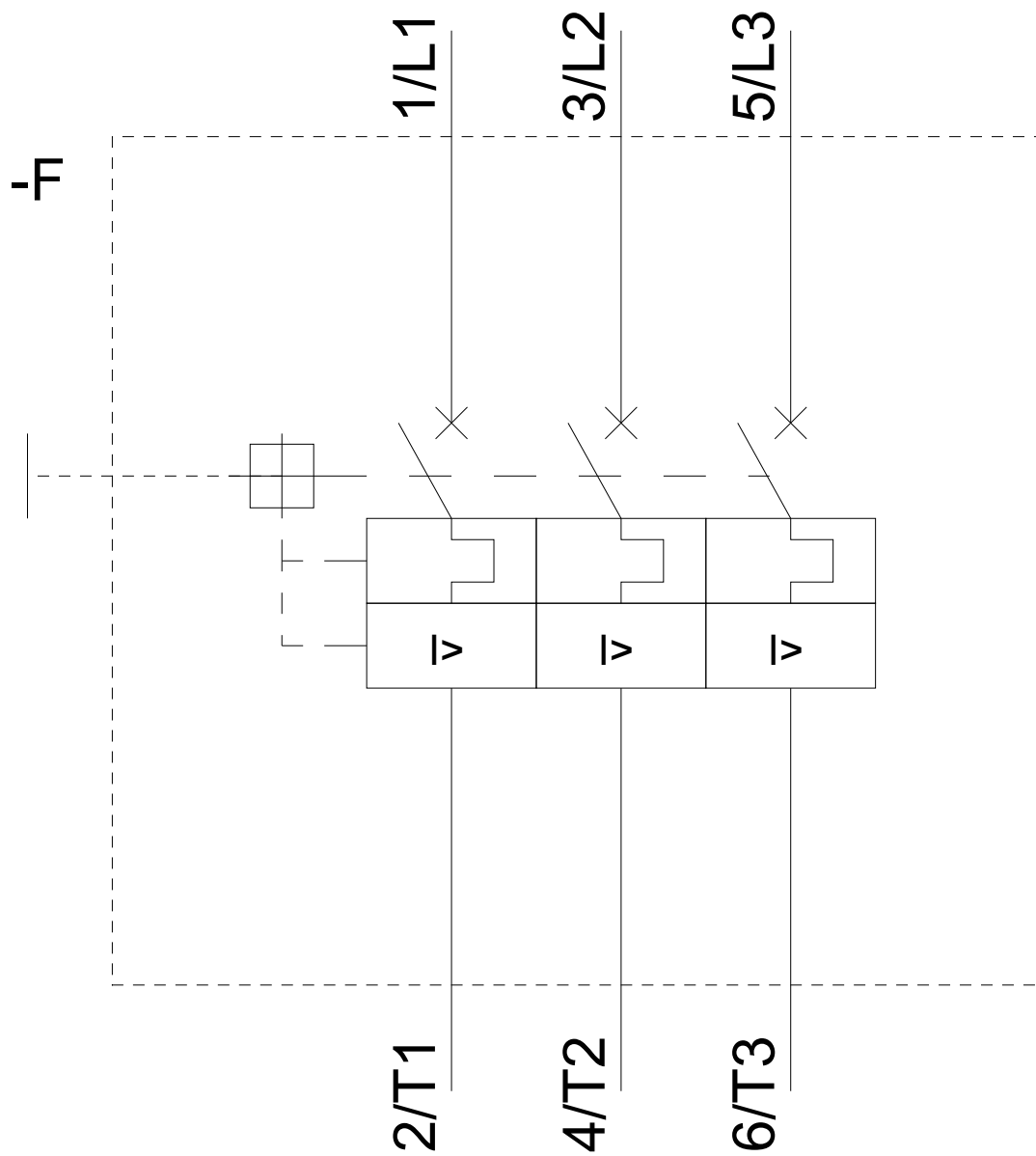
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2821-4BD10/char>

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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