SIEMENS

Data sheet 3RV2021-4EA10

CIRCUIT-BREAKER SZ S0, FOR MOTOR PROTECTION, CLASS 10, A-RELEASE 27...32A, N-RELEASE 400A, SCREW CONNECTION, STANDARD SW. CAPACITY,



product brandname	SIRIUS
Product designation	Circuit breaker
Design of the product	For motor 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] total typical	11 W
Insulation voltage with degree of pollution 3 rated	690 V
value	
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
 in networks with grounded star point between 	400 V
main and auxiliary circuit	
 in networks with grounded star point between 	400 V
main and auxiliary circuit	
Protection class IP	

• of the terminal	• on the front	IP20	
• of the main contacts typical • of auxiliary contacts typical 100 000 Electrical endurance (switching cycles) • typical 100 000 Type of protection Increased safety Increased safety Inger-safe Equipment marking acc. to DIN EN 81346-2 Q Ambient conditions Ambient temperature • during operation • during storage • during transport Temperature compensation -20 +60 °C -50 +80 °C -50 +80 °C -50 +80 °C -70 °	• of the terminal	IP20	
• of auxiliary contacts typical Electrical endurance (switching cycles) • typical 100 000 Type of protection Protection against electrical shock Equipment marking acc. to DIN EN 81346-2 Q Ambient conditions Ambient temperature • during operation • during storage • during transport -50 +80 °C -60 °C -80 °C -8	Mechanical service life (switching cycles)		
Electrical endurance (switching cycles) • typical Type of protection Type of protection Protection against electrical shock Equipment marking acc. to DIN EN 81346-2 Antibient conditions Ambient temperature • during operation • during storage • during transport • during transport -50 +80 °C Temperature compensation • 20 +60 °C • during transport -50 +80 °C Temperature compensation -20 +60 °C Main circuit Number of poles for main current circuit 3 Adjustable pick-up value current of the current-dependent overload release Operating voltage • rated value • at AC-3 rated value maximum Operating current rated value • at AC-3 - at 400 V rated value - at 600 V valed value - at 600 V vale	of the main contacts typical	100 000	
• typical	of auxiliary contacts typical	100 000	
Type of protection Increased safety Protection against electrical shock finger-safe Equipment marking acc. to DIN EN 81346-2 Q Ambient conditions Ambient temperature during operation -20 +60 °C	Electrical endurance (switching cycles)		
Protection against electrical shock Equipment marking acc. to DIN EN 81346-2 Ambient conditions Ambient temperature • during operation • during storage • during transport • 20 +60 °C Temperature compensation • 20 +60 °C Main circuit Number of poles for main current circuit Adjustable pick-up value current of the current-dependent overload release Operating voltage • rated value • at AC-3 rated value maximum 690 V Operating frequency rated value Operating current rated value • at AC-3 — at 400 V rated value • at AC-3 — at 230 V rated value • at AC-3 — at 230 V rated value — at 500 V rated value — at 690 V rated value —	• typical	100 000	
Equipment marking acc. to DIN EN 81346-2 Q	Type of protection	Increased safety	
Ambient conditions Ambient temperature • during operation • during storage • during transport -50 +80 °C -50 +80 °C -6 during transport -50 +80 °C -70	Protection against electrical shock	finger-safe	
Ambient temperature • during operation • during storage • during transport -50 +80 °C • during transport -50 +80 °C • during transport -50 +80 °C -50 +60 °C Temperature compensation -20 +60 °C Main circuit Number of poles for main current circuit 3 Adjustable pick-up value current of the current-dependent overload release Operating voltage • rated value • at AC-3 rated value maximum -690 V Operating frequency rated value -50 60 Hz Operating current rated value -22 32 A Operating current rated value -32 A Operating power • at AC-3 - at 400 V rated value - at 500 V rated value - at 500 V rated value - at 690 V rated value -	Equipment marking acc. to DIN EN 81346-2	Q	
• during operation • during storage • during transport • during transport • during transport • 55 +80 °C Temperature compensation • 22 +60 °C Main circuit Number of poles for main current circuit 3 Adjustable pick-up value current of the current-dependent overload release Operating voltage • rated value • at AC-3 rated value maximum 690 V • at AC-3 rated value maximum 690 V Operating current rated value • at AC-3 — at 400 V rated value • at AC-3 — at 400 V rated value • at AC-3 — at 400 V rated value • at AC-3 — at 230 V rated value — at 500 V rated value — at 500 V rated value — at 500 V rated value — at 600 V rated value	Ambient conditions		
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• during transport -50 +80 °C Temperature compensation -20 +60 °C Main circuit Number of poles for main current circuit 3 Adjustable pick-up value current of the current-dependent overload release Operating voltage • rated value • at AC-3 rated value maximum Operating frequency rated value 50 60 Hz Operating current • at AC-3 — at 400 V rated value 32 A Operating power • at AC-3 — at 230 V rated value — at 400 V rated value — at 400 V rated value — at 500 V rated value — at 690	during operation		
Temperature compensation -20 +60 °C Main circuit Number of poles for main current circuit 3 Adjustable pick-up value current of the current-dependent overload release 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 32 A Operating current • at AC-3 — at 400 V rated value 32 A Operating power • at AC-3 — at 230 V rated value 7 500 W — at 400 V rated value 15 000 W — at 400 V rated value 15 000 W — at 400 V rated value 15 000 W — at 400 V rated value 18 500 W — at 690 V rated value 30 000 W Operating frequency • at AC-3 maximum 15 1/h Auxiliary circuit Number of NC contacts • for auxiliary contacts 0 Number of NO contacts	during storage		
Number of poles for main current circuit Adjustable pick-up value current of the current-dependent overload release Operating voltage • rated value • at AC-3 rated value maximum Operating current rated value • at AC-3 — at 400 V rated value • at AC-3 — at 230 V rated value — at 400 V rated value — at 400 V rated value 7 500 W — at 500 V rated value — at 690 V rated value 15 000 W — at 500 V rated value 15 000 W — at 690 V rated value Operating frequency • at AC-3 — at 230 V rated value — at 400 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value — at			
Number of poles for main current circuit Adjustable pick-up value current of the current-dependent overload release Operating voltage • rated value • at AC-3 rated value maximum Operating frequency rated value Operating current rated value • at AC-3 — at 400 V rated value — at 500 V rated value — at 690 V rated value Operating frequency • at AC-3 — at 690 V rated value — at 690 V rated value T 500 W — at 690 V rated value T 500 W Auxiliary circuit Number of NC contacts • for auxiliary contacts • for auxiliary contacts Number of NO contacts	Temperature compensation	-20 +60 °C	
Adjustable pick-up value current of the current- dependent overload release Operating voltage • rated value • at AC-3 rated value maximum Operating current rated value • at AC-3 — at 400 V rated value • at AC-3 — at 400 V rated value • at AC-3 — at 230 V rated value — at 500 V v rated value 15 000 W — at 500 V v rated value 7 500 W — at 500 V rated value 18 500 W — at 690 V rated value Operating frequency • at AC-3 — at 230 V rated value 15 000 W Operating frequency — at 690 V rated value 18 500 W Operating frequency • at AC-3 maximum 15 1/h Auxiliary circuit Number of NC contacts • for auxiliary contacts • for auxiliary contacts 0 Number of NO contacts			
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Operating current • at AC-3			
— at 400 V rated value 32 A Operating power ■ at AC-3 — at 230 V rated value 7 500 W — at 400 V rated value 15 000 W — at 500 V rated value 18 500 W — at 690 V rated value 30 000 W Operating frequency ■ at AC-3 maximum 15 1/h Auxiliary circuit Number of NC contacts ■ for auxiliary contacts ■ for auxiliary contacts 0 Number of NO contacts	· · · · · ·		
Operating power • at AC-3 — at 230 V rated value 7 500 W — at 400 V rated value 15 000 W — at 500 V rated value 18 500 W — at 690 V rated value 30 000 W Operating frequency • at AC-3 maximum 15 1/h Auxiliary circuit Number of NC contacts • for auxiliary contacts 0 Number of NO contacts	• at AC-3		
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— at 230 V rated value 7 500 W — at 400 V rated value 15 000 W — at 500 V rated value 18 500 W — at 690 V rated value 30 000 W Operating frequency at AC-3 maximum 15 1/h Auxiliary circuit Number of NC contacts 0 Number of NO contacts 0	Operating power		
- at 400 V rated value 15 000 W - at 500 V rated value 30 000 W Operating frequency • at AC-3 maximum 15 1/h Auxiliary circuit Number of NC contacts • for auxiliary contacts • for auxiliary contacts Number of NO contacts	• at AC-3		
— at 500 V rated value — at 690 V rated value Operating frequency • at AC-3 maximum 15 1/h Auxiliary circuit Number of NC contacts • for auxiliary contacts • for auxiliary contacts Number of NO contacts	— at 230 V rated value	7 500 W	
— at 690 V rated value Operating frequency ● at AC-3 maximum 15 1/h Auxiliary circuit Number of NC contacts ● for auxiliary contacts O Number of NO contacts	— at 400 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	— at 500 V rated value	18 500 W	
at AC-3 maximum Auxiliary circuit Number of NC contacts for auxiliary contacts Number of NO contacts O Number of NO contacts	— at 690 V rated value	30 000 W	
Auxiliary circuit Number of NC contacts • for auxiliary contacts Number of NO contacts 0	Operating frequency		
Number of NC contacts	• at AC-3 maximum	15 1/h	
• for auxiliary contacts Number of NO contacts 0	•		
Number of NO contacts	Number of NC contacts		
	-	0	
• for auxiliary contacts 0			
	• for auxiliary contacts	0	

Number of CO contacts 0 • for auxiliary contacts Protective and monitoring functions Product function No • Ground fault detection • Phase failure detection Yes Trip class CLASS 10 Design of the overload release thermal Operational short-circuit current breaking capacity (Ics) at AC 100 kA • at 240 V rated value 25 kA • at 400 V rated value 5 kA • at 500 V rated value 2 kA • at 690 V rated value Maximum short-circuit current breaking capacity (Icu) 100 kA • at AC at 240 V rated value 55 kA • at AC at 400 V rated value 10 kA • at AC at 500 V rated value 4 kA • at AC at 690 V rated value Breaking capacity short-circuit current (Icn) 10 kA • at 1 current path at DC at 150 V rated value 10 kA • with 2 current paths in series at DC at 300 V rated value 10 kA • with 3 current paths in series at DC at 450 V rated value UL/CSA ratings Full-load current (FLA) for three-phase AC motor 32 A • at 480 V rated value 32 A • at 600 V rated value Yielded mechanical performance [hp] • for single-phase AC motor - at 110/120 V rated value 2 hp - at 230 V rated value 5 hp • for three-phase AC motor 7.5 hp - at 200/208 V rated value 10 hp - at 220/230 V rated value 20 hp - at 460/480 V rated value

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 63 A
● at 690 V	gL/gG 63 A

Mounting position	any
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rai according to DIN EN 60715
Height	97 mm
Width	45 mm
Depth	96 mm
Required spacing	
with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— at the side	30 mm
— downwards	50 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	30 mm

Connections/Terminals	
Product function	
 removable terminal for auxiliary and control circuit 	No
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	
— single or multi-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 conductors for main contacts 	2x (16 12), 2x (14 8)	
Tightening torque		
 for main contacts with screw-type terminals 	2 2.5 N·m	
Design of screwdriver shaft	Diameter 5 to 6 mm	

Safety related data	
B10 value	
 with high demand rate acc. to SN 31920 	5 000
Proportion of dangerous failures	
 with low demand rate acc. to SN 31920 	50 %
 with high demand rate acc. to SN 31920 	50 %
Failure rate [FIT]	
 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	
• for switching status	Handle

Certificates/approvals

General Product Approval

For use in hazardous locations







KC





	For use in hazardous locations	Declaration of Conformity	Test Certificates	Shipping Approval
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Special Test Certificate Type Test
Certificates/Test
Report





Shipping Approval











otherConfirmation

Environmental Confirmations

other Railway



Miscellaneous

Vibration and Shock

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-4EA10

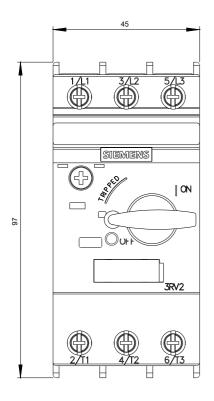
Cax online generator

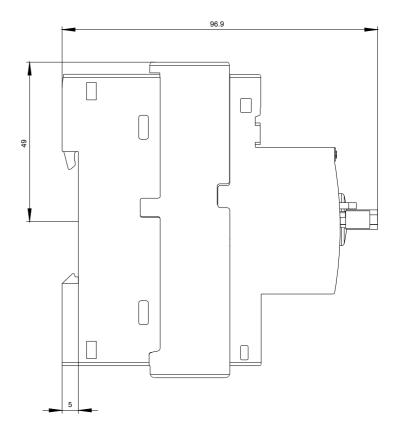
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4EA10

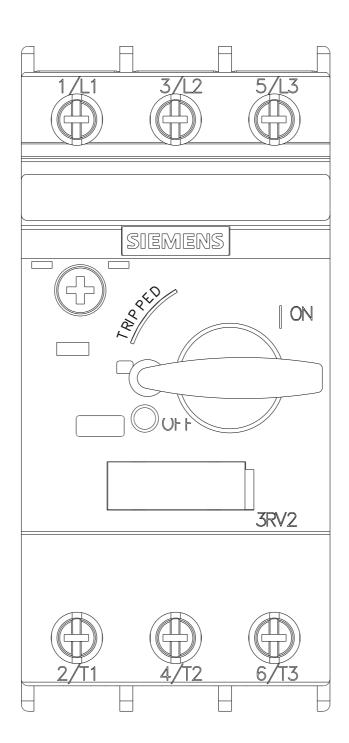
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

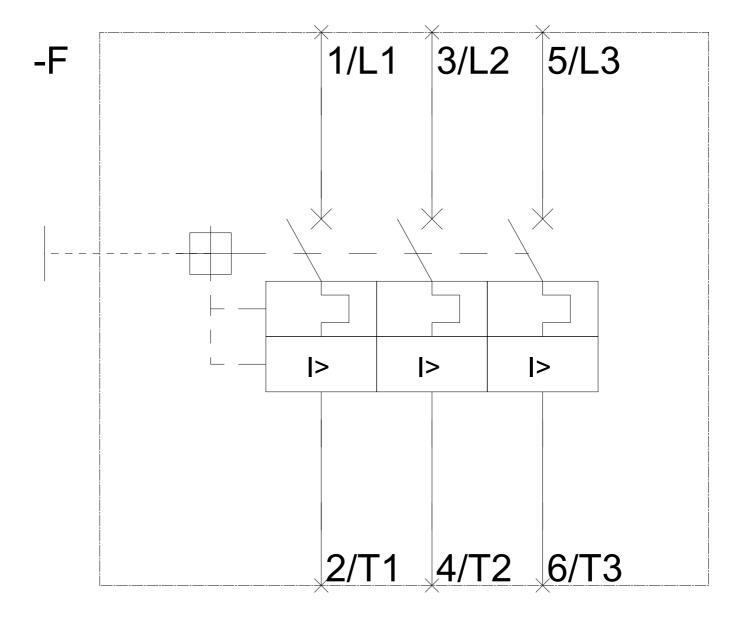
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4EA10

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4EA10&lang=en









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