SIEMENS

Data sheet

3RV2431-4EA10



circuit breaker size S2 for transformer protection A-release 22...32 A short-circuit release 656 A screw terminal standard switching capacity

product brand name	SIRIUS
product designation	Circuit breaker
design of the product	For transformer protection
product type designation	3RV2
General technical data	
size of the circuit-breaker	S2
size of contactor can be combined company-specific	S2
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	18 W
 at AC in hot operating state per pole 	6 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 Sinus
mechanical service life (operating cycles)	
 of the main contacts typical 	50 000
 of auxiliary contacts typical 	50 000
electrical endurance (operating cycles) typical	50 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/15/2014
SVHC substance name	Lead - 7439-92-1
Weight	1.056 kg
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
adjustable current response value current of the current- dependent overload release	22 32 A
operating voltage	
rated value	20 690 V
 at AC-3 rated value maximum 	690 V

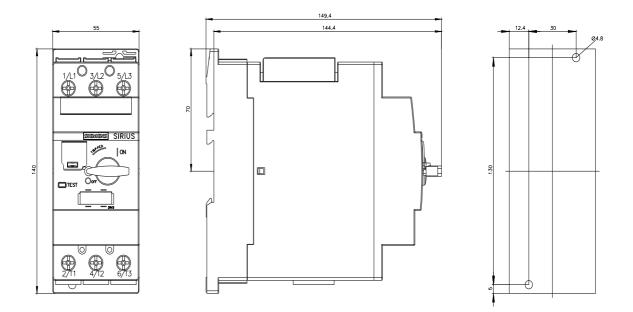
• at AC-3e rated value maximum

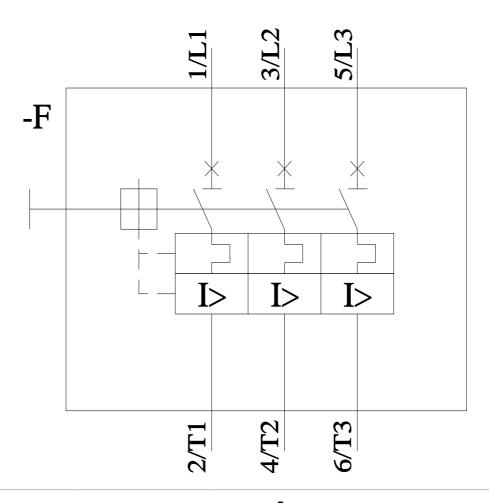
690 V

operating frequency rated value	50 60 Hz
operational current rated value	32 A
operational current	
 at AC-3 at 400 V rated value 	32 A
 at AC-3e at 400 V rated value 	32 A
operating power	
• at AC-3	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	30 kW
• at AC-3e	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	30 kW
operating frequency	
• at AC-3 maximum	15 1/h
• at AC-3e maximum	15 1/h
Auxiliary circuit	
	0
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	0
Protective and monitoring functions	
product function	
 ground fault detection 	No
phase failure detection	Yes
trip class	CLASS 10
design of the overload release	thermal
maximum short-circuit current breaking capacity (Icu)	
 at AC at 240 V rated value 	100 kA
 at AC at 400 V rated value 	65 kA
 at AC at 500 V rated value 	10 kA
• at AC at 690 V rated value	4 kA
operating short-circuit current breaking capacity (Ics) at AC	
	100 kA
operating short-circuit current breaking capacity (Ics) at AC • at 240 V rated value	
operating short-circuit current breaking capacity (Ics) at AC	100 kA 30 kA 5 kA
 operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value 	30 kA 5 kA
 operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value 	30 kA 5 kA 2 kA
 operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit 	30 kA 5 kA
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings	30 kA 5 kA 2 kA
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor	30 kA 5 kA 2 kA 656 A
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value 	30 kA 5 kA 2 kA 656 A 32 A
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value 	30 kA 5 kA 2 kA 656 A
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 600 V rated value at 600 V rated value 	30 kA 5 kA 2 kA 656 A 32 A
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value at 600 V rated value for 3-phase AC motor for single-phase AC motor	30 kA 5 kA 2 kA 656 A 32 A 32 A
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value at 10/120 V rated value 	30 kA 5 kA 2 kA 656 A 32 A 32 A 32 A
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value for 3-phase AC motor at 600 V rated value 	30 kA 5 kA 2 kA 656 A 32 A 32 A
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value be for single-phase AC motor at 230 V rated value for 3-phase AC motor 	30 kA 5 kA 2 kA 656 A 32 A 32 A 3 hp 5 hp
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operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value at 600 V rated value at 600 V rated value at 110/120 V rated value for single-phase AC motor at 230 V rated value for 3-phase AC motor at 220/230 V rated value at 460/480 V rated value at 575/600 V rated value 	30 kA 5 kA 2 kA 656 A 32 A 32 A 32 A 10 hp 10 hp 10 hp 25 hp
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operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value at 690 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value for single-phase AC motor at 110/120 V rated value for 3-phase AC motor at 220/208 V rated value at 220/208 V rated value at 460/480 V rated value at 575/600 V rated value Short-circuit protection design of the short-circuit trip Installation/ mounting/ dimensions mounting position 	30 kA 5 kA 2 kA 656 A 32 A 32 A 3 hp 5 hp 10 hp 10 hp 10 hp 25 hp 30 hp Yes magnetic any
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 600 V rated value at 600 V rated value at 600 V rated value for single-phase AC motor at 110/120 V rated value for 3-phase AC motor at 230 V rated value for 3-phase AC motor at 200/208 V rated value at 200/208 V rated value at 575/600 V rated value Short-circuit protection product function short circuit protection design of the short-circuit trip Installation/ mounting/ dimensions mounting position fastening method 	30 kA 5 kA 2 kA 656 A 32 A 32 A 3 hp 5 hp 10 hp 10 hp 10 hp 25 hp 30 hp Yes magnetic any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
operating short-circuit current breaking capacity (Ics) at AC at 240 V rated value at 400 V rated value at 500 V rated value at 690 V rated value at 690 V rated value at 690 V rated value response value current of instantaneous short-circuit trip unit UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value for single-phase AC motor at 110/120 V rated value for 3-phase AC motor at 220/208 V rated value at 220/208 V rated value at 460/480 V rated value at 575/600 V rated value Short-circuit protection design of the short-circuit trip Installation/ mounting/ dimensions mounting position 	30 kA 5 kA 2 kA 656 A 32 A 32 A 3 hp 5 hp 10 hp 10 hp 10 hp 25 hp 30 hp Yes magnetic any

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- - 10 mm • for live parts at 50 V 50 mm - upwards 50 mm - upwards 50 mm - at the side 10 mm • org grounded parts at 600 V 10 mm - upwards 50 mm - torwards 50 mm - upwards 50 mm		
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- upwards 50 mm - backwards 0 mm - at the side 10 mm - forwards 0 mm Connections/ Terminals type of electrical connection orm • for main current circuit screw-type terminals arrangement of electrical connectors for main current Top and bottom circuit Top and bottom type of connectable conductor cross-sections • for main contacts • for main contacts - solid or stranded 2x (1 25 mm²), 1x (1 35 mm²) - finely stranded with core end processing 2x (1 16 mm²), 1x (1 35 mm²) - finely stranded with core end processing • for AWO cables for main contacts 2x (1 16 mm²), 1x (1 35 mm²) • for MVO cables for main contacts 2x (1 8 3), 1x (1 8 2) tightening torque • for main contacts 2x (1 8 3), 1x (1 8 2) • for main contacts with screw-type terminals 3 4.5 N·m design of screwdriver shaft Diameter 5 to 6 mm size of the screwdriver shaft Diameter 5 to 6 mm size of the screwdriver shaft Diameter 5 to 6 mm size of the screwdriver shaft Diameter 5 to 6 mm size of the screwdriver shaft Diameter 5 to 6 mm size of the screwdriver shaft Diameter 5 to 6 mm		
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- at the side 10 mm - forwards 0 mm Connections/Terminals type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit Top and bottom type of connectable conductor cross-sections • for main contacts - solid or stranded 2x (1 25 mm ³), 1x (1 35 mm ³) - finely stranded with core end processing 2x (1 16 mm ³), 1x (1 25 mm ³) • for AWG cables for main contacts 2x (1 25 mm ³), 1x (1 25 mm ³) • for main contacts with screw-type terminals 3 4.5 N·m design of screwdriver shaft Diameter 5 to 6 mm size of the screwdriver tip Pocidriv size 2 design of screwdriver tip product function suitable for safety function Yes suitability for use • safety-related switching on • safety-related switching OFF Yes service life maximum 10 a test wear-related service life necessary Yes proportion of dangerous failures • with high demand rate according to SN 31920 50 % BY0 value with high demand rate according to SN 31920	— upwards	50 mm
— forwards 0 mm Connections/Terminals type of electrical connectors • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded 2x (1 25 mm ³), 1x (1 35 mm ³) — finely stranded with core end processing 2x (1 25 mm ³), 1x (1 35 mm ³) • for main contacts 2x (1 25 mm ³), 1x (1 35 mm ³) • for main contacts 2x (1 25 mm ³), 1x (1 35 mm ³) • for main contacts 2x (1 25 mm ³), 1x (1 25 mm ³) • for main contacts with screw-type terminals 3 4.5 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 • for main contacts M6 Safety-related data Product function suitable for safety function yes safety-related switching on No • safety-related switching OFF Yes service life maximum 10 a test wear-related service life necessary Yes	— backwards	
Connections/Terminals type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts - solid or stranded 2x (1 25 mm²), 1x (1 35 mm²) - finely stranded with core end processing 2x (1 25 mm²), 1x (1 35 mm²) • for Main contacts 0 - finely stranded with core end processing 2x (1 25 mm²), 1x (1 35 mm²) • for main contacts with screw-type terminals 3 4.5 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 M6 Safety-related switching on • safety-related switching OFF Yes proportion of dangerous failures • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 50 W B10 value with high demand rate according to SN 31920 50 W <	— at the side	10 mm
type of electrical connection 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 2x (125 mm²), 1x (135 mm²) - finely stranded with core end processing 2x (116 mm²), 1x (135 mm²) - finely stranded with core end processing 2x (116 mm²), 1x (125 mm²) of or AWG cables for main contacts 2x (13, 1x (182) tightening torque • for main contacts with screw-type terminals • for main contacts with screw-type terminals 34.5 N·m design of the screwdriver shaft Diameter 5 to 6 mm size of the screwdriver shaft Diameter 5 to 6 mm size of the screwdriver shaft Diameter 5 to 8 mm size of the screwdriver shaft M6 Safety-related data model for safety function product function suitable for safety function Yes sericle life maximum 10 a test wear-related service life necessary Yes proportion of dangerous failures 40 % with high demand rate according to SN 31920 50 % B10 value with high demand rate according to SN 31920 50		0 mm
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	type of connectable conductor cross-sections	
finely stranded with core end processing 2x (1 16 mm²), 1x (1 25 mm²) • for AWG cables for main contacts 2x (1 8 3), 1x (18 2) tightening torque 3 4.5 N·m • for main contacts with screw-type terminals 3 4.5 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 M6 • for main contacts M6 Safety related data product function suitable for safety function yes safety-related switching on • safety-related switching OFF Yes service life maximum 10 a test wear-related service life necessary Yes proportion of dangerous failures 40 % • with high demand rate according to SN 31920 50 % B10 value with high demand rate according to SN 31920 50 % ITT Stafey 50 FIT		
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• safety-related switching onNo• safety-related switching OFFYesservice life maximum10 atest wear-related service life necessaryYesproportion of dangerous failures-• with low demand rate according to SN 3192040 %• with high demand rate according to SN 3192050 %B10 value with high demand rate according to SN 3192050 00failure rate [FIT] with low demand rate according to SN 3192050 FIT	size of the screwdriver tip design of the thread of the connection screw • for main contacts	Pozidriv size 2
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device type according		3					
	overdimensioning according to ISO 13849-2 necessary		Yes				
IEC 61508		-					
safety device type according to IEC 61508-2		l yr	Туре А				
l'1 value							
61508	 for proof test interval or service life according to IEC 61508 		10 a				
Electrical Safety							
protection class IP on	the front according to	EC 60529 IP2	IP20				
touch protection on the front according to IEC 60529		C 60529 fing	finger-safe, for vertical contact from the front				
Display							
display version for switching status			Handle				
Approvals Certificates					_		
General Product App	roval						
	CE EG-Konf.	UK CA	<u>Confirmation</u>	U L	<u>KC</u>		
General Product Approval	Test Certificates		Marine / Shipping				
EHC	Special Test Certific- ate	<u>Type Test Certific-</u> ates/Test Report	ABS	BUREAU VERITAS			
Marine / Shipping			other				
Lloyd's Register us	PRS	RINA	<u>Miscellaneous</u>	<u>Confirmation</u>			
Railway		Environment					
Special Test Certific- ate	<u>Confirmation</u>	Siemens EcoTech	EPD	Environmental Con- firmations			
Further information							
Information on the pa							
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