SIEMENS

3RV2042-4YB10 **Data sheet**



Circuit breaker size S3 for motor protection, Class 20 A-release 75...93 A N-release 1300 A screw terminal Increased switching capacity 100 kA $\,$



product brand name	SIRIUS
product designation	Circuit breaker
design of the product	For motor protection
product type designation	3RV2
General technical data	
size of the circuit-breaker	S3
size of contactor can be combined company-specific	S3
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	39 W
at AC in hot operating state per pole	13 W
insulation voltage with degree of pollution 3 at AC rated value	1 000 V
surge voltage resistance rated value	8 kV
shock resistance according to IEC 60068-2-27	25g / 11 ms Sinus
mechanical service life (operating cycles)	
of the main contacts typical	25 000
of auxiliary contacts typical	25 000
electrical endurance (operating cycles) typical	25 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	03/01/2017
SVHC substance name	Lead - 7439-92-1
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	75 93 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

	22.4
operational current rated value	93 A
operational current	
 at AC-3 at 400 V rated value 	93 A
at AC-3e at 400 V rated value	93 A
operating power	
• at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	45 kW
— at 500 V rated value	55 kW
— at 690 V rated value	90 kW
• at AC-3e	
— at 230 V rated value	22 kW
— at 400 V rated value	45 kW
— at 500 V rated value	55 kW
— at 690 V rated value	90 kW
operating frequency	
• at AC-3 maximum	15 1/h
• at AC-3e maximum	15 1/h
Protective and monitoring functions	
product function	
ground fault detection	No
phase failure detection	Yes
trip class	CLASS 20
design of the overload release	thermal
maximum short-circuit current breaking capacity (Icu)	uoma
at AC at 240 V rated value	100 kA
at AC at 240 V rated value at AC at 400 V rated value	100 KA
at AC at 500 V rated value	10 kA
at AC at 690 V rated value	6 kA
operating short-circuit current breaking capacity (lcs) at AC	400.14
at 240 V rated value	100 kA
at 400 V rated value	50 kA
at 500 V rated value	5 kA
at 690 V rated value	3 kA
response value current of instantaneous short-circuit trip unit	1 300 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	93 A
at 600 V rated value	93 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	7.5 hp
— at 230 V rated value	20 hp
• for 3-phase AC motor	
— at 200/208 V rated value	30 hp
— at 220/230 V rated value	40 hp
— at 460/480 V rated value	75 hp
— at 575/600 V rated value	100 hp
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
Installation/ mounting/ dimensions	magnotio
	any
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	165 mm
width	70 mm
depth	176 mm
required spacing	
with side-by-side mounting at the side	0 mm
 for grounded parts at 400 V 	

— downwards	70 mm
	70 mm
— upwards	
— at the side	10 mm
• for live parts at 400 V	
— downwards	70 mm
— upwards	70 mm
— at the side	10 mm
 for grounded parts at 500 V 	
— downwards	110 mm
— upwards	110 mm
— at the side	10 mm
 for live parts at 500 V 	
— downwards	110 mm
— upwards	110 mm
— at the side	10 mm
 for grounded parts at 690 V 	
— downwards	150 mm
— upwards	150 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
• for live parts at 690 V	
— downwards	150 mm
— upwards	150 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	Top and bottom
circuit	
type of connectable conductor cross-sections • for main contacts	2x (2.5 16 mm²)
type of connectable conductor cross-sections • for main contacts — solid	2x (2.5 16 mm²) 2x (2.5 50 mm²), 1x (10 70 mm²)
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded	2x (2,5 50 mm²), 1x (10 70 mm²)
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²)
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing	2x (2,5 50 mm²), 1x (10 70 mm²)
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²)
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²)
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 4.5 6 N·m Yes
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm Yes No Yes 10 a
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary proportion of dangerous failures	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m Yes No Yes 10 a Yes
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary proportion of dangerous failures • with low demand rate according to SN 31920	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m Yes No Yes 10 a Yes
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m Yes No Yes 10 a Yes
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 B10 value with high demand rate according to SN 31920	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m Yes No Yes 10 a Yes 40 % 50 % 5 000
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m Yes No Yes 10 a Yes
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m Yes No Yes 10 a Yes 40 % 50 % 5 000
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m Yes No Yes 10 a Yes 40 % 50 % 5 000
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 B10 value with high demand rate according to SN 31920 ISO 13849	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m Yes No Yes 10 a Yes 40 % 50 % 5 000 50 FIT
circuit type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 B10 value with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 ISO 13849 device type according to ISO 13849-1	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m Yes No Yes 10 a Yes 40 % 50 % 5 000 50 FIT
circuit type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing tightening torque • for main contacts for ring cable lug outer diameter of the usable ring cable lug maximum tightening torque • for main contacts with screw-type terminals Safety related data product function suitable for safety function suitability for use • safety-related switching on • safety-related switching OFF service life maximum test wear-related service life necessary proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 B10 value with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 ISO 13849 device type according to ISO 13849-1 overdimensioning according to ISO 13849-2 necessary	2x (2,5 50 mm²), 1x (10 70 mm²) 2x (2.5 35 mm²), 1x (2.5 50 mm²) 2x (10 35 mm²), 1x (10 50 mm²) 4.5 6 N·m 19 mm 4.5 6 N·m Yes No Yes 10 a Yes 40 % 50 % 5 000 50 FIT

T1 value	
 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
Approvals Certificates	
General Product Approval	





Confirmation





<u>KC</u>

General Product Approval

Test Certificates

Marine / Shipping



Special Test Certific-<u>ate</u>

Type Test Certificates/Test Report







Marine / Shipping







Miscellaneous

other

Confirmation



Railway

Environment

Special Test Certific-<u>ate</u>

Confirmation



Siemens **EcoTech**



Environmental Confirmations

Information on the packaging

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

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=3RV2042-4YB10

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RV2042-4YB10}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4YB10

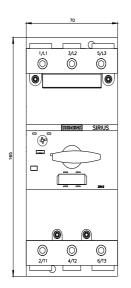
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

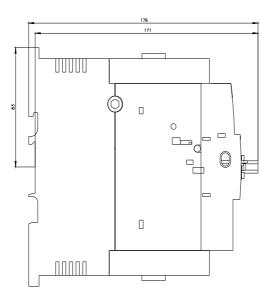
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4YB10&lang=en

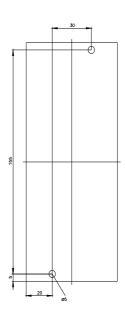
Characteristic: Tripping characteristics, I2t, Let-through current

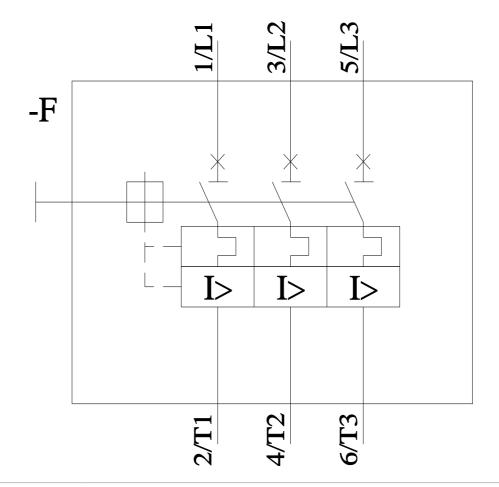
https://support.industry.siemens.com/cs/ww/en/ps/3RV204

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2042-4YB10&objecttype=14&gridview=view1









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