SIEMENS

Data sheet 3RV2321-1EC20



Circuit breaker size S0 for starter combination Rated current 4 A N release 52 A Spring-type terminal Standard switching capacity

product brand name	SIRIUS
product designation	Circuit breaker
design of the product	For starter combinations
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] for rated value of the current	
 at AC in hot operating state 	7.25 W
at AC in hot operating state per pole	2.4 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
between main and auxiliary circuit	400 V
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 IEC 81346-2	Q
Substance Prohibitance (Date)	01.10.2009 00:00:00
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
 ambient temperature during operation 	-20 +60 °C
 ambient temperature during storage 	-50 +80 °C
 ambient temperature 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	690 V
 operating voltage at AC-3 rated value maximum 	690 V
operating frequency rated value	50 60 Hz
operational current rated value	4 A

operational current at AC-3 at 400 V rated value	4 A
operating power at AC-3	
• at 230 V rated value	750 W
 at 400 V rated value 	1 500 W
 at 500 V rated value 	2 200 W
at 690 V rated value	3 000 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
breaking capacity operating short-circuit current (lcs)	
at AC	
• at 240 V rated value	100 kA
• at 400 V rated value	100 kA
• at 500 V rated value	100 kA
at 690 V rated value	4 kA
breaking capacity maximum short-circuit current (Icu)	
 at AC at 240 V rated value 	100 kA
 at AC at 400 V rated value 	100 kA
 at AC at 500 V rated value 	100 kA
at AC at 690 V rated value	6 kA
response value current of instantaneous short-circuit trip unit	52 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
 at 480 V rated value 	4 A
 at 600 V rated value 	4 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
 at 110/120 V rated value 	0.125 hp
— at 230 V rated value	0.333 hp
• for 3-phase AC motor	
— at 200/208 V rated value	0.75 hp
— at 220/230 V rated value	0.75 hp
— at 460/480 V rated value	2 hp
— at 575/600 V rated value	3 hp
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
height	119 mm
width	45 mm
depth	97 mm
required spacing	
• for grounded parts at 400 V	
— downwards	30 mm
— downwards — upwards	30 mm
•	9 mm
	9 11111
— at the side	
at the sidefor live parts at 400 Vdownwards	30 mm

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— upwards	30 mm
— at the side	9 mm
 for grounded parts at 500 V 	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
 for live parts at 500 V 	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
 for grounded parts at 690 V 	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
• for live parts at 690 V	O HIIII
•	E0 mm
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	
product function removable terminal for auxiliary and control circuit	No
type of electrical connection	
for main current circuit	spring-loaded 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 (1 10 mm²)
 finely stranded with core end processing 	2x (1 6 mm²)
— ilitely stranded with core end processing	
— finely stranded without core end processing	2x (1 6 mm²)
— finely stranded without core end processingat AWG cables for main contacts	2x (1 6 mm²) 2x (18 8)
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft	2x (1 6 mm²) 2x (18 8) Diameter 3 mm
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip	2x (1 6 mm²) 2x (18 8)
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data	2x (1 6 mm²) 2x (18 8) Diameter 3 mm
- finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920	2x (1 6 mm²) 2x (18 8) Diameter 3 mm
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm
- finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm 5 000
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm
- finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 failure rate [FIT]	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm 5 000 50 % 50 %
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm 5 000 50 % 50 % 50 FIT
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to IEC 61508	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm 5 000 50 % 50 % 50 FIT 10 y
- finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to IEC 61508 protection class IP on the front acc. to IEC 60529	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm 5 000 50 % 50 % 50 FIT
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to IEC 61508	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm 5 000 50 % 50 % 50 FIT 10 y
- finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to IEC 61508 protection class IP on the front acc. to IEC 60529	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm 5 000 50 % 50 % 50 FIT 10 y IP20
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to IEC 61508 protection class IP on the front acc. to IEC 60529 touch protection on the front acc. to IEC 60529	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm 5 000 50 % 50 % 50 FIT 10 y IP20 finger-safe, for vertical contact from the front
— finely stranded without core end processing • at AWG cables for main contacts design of screwdriver shaft size of the screwdriver tip Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to IEC 61508 protection class IP on the front acc. to IEC 60529 touch protection on the front acc. to IEC 60529 display version for switching status	2x (1 6 mm²) 2x (18 8) Diameter 3 mm 3,0 x 0,5 mm 5 000 50 % 50 % 50 FIT 10 y IP20 finger-safe, for vertical contact from the front









Miscellaneous



Test Certificates

Marine / Shipping

Type Test
Certificates/Test
Report

Special Test Certificate









Marine / Shipping

other

Railway







Confirmation



Vibration and Shock

Railway

Confirmation

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=3RV2321-1EC20

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2321-1EC20

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2321-1EC20

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

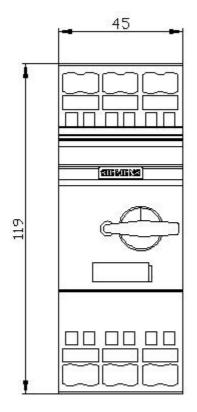
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2321-1EC20&lang=en

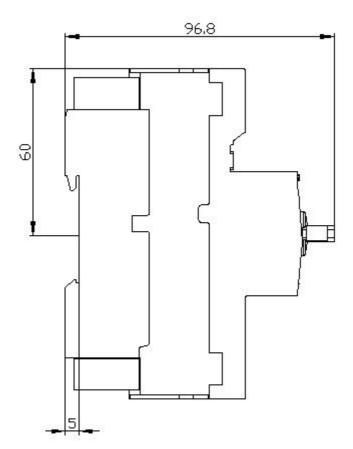
Characteristic: Tripping characteristics, I2t, Let-through current

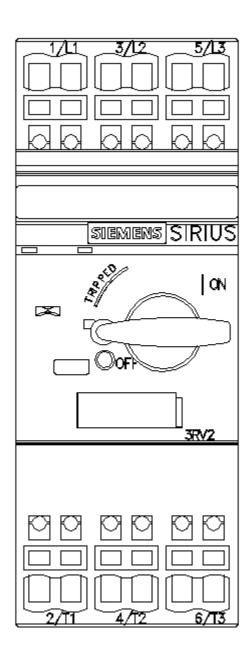
https://support.industry.siemens.com/cs/ww/en/ps/3RV2321-1EC20/char

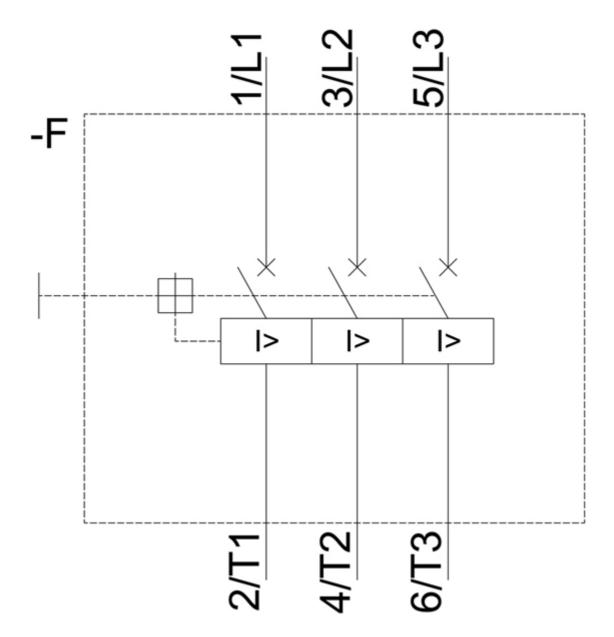
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2321-1EC20&objecttype=14&gridview=view1









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