SIEMENS

Data sheet 3RV2021-4NA10



Circuit breaker size S0 for motor protection, CLASS 10 A-release 23...28 A N-release 364 A screw terminal Standard switching capacity

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	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 	13.25 W
at AC in hot operating state per pole	4.4 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
type of protection according to ATEX directive 2014/34/EU	Ex II (2) GD
certificate of suitability according to ATEX directive 2014/34/EU	DMT 02 ATEX F 001
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
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
adjustable current response value current of the current-dependent overload release	23 28 A
· · · · · · · · · · · · · · · · · · ·	
operating voltage	000.1/
• rated value	690 V
at AC-3 rated value maximum	690 V
operating frequency rated value	50 60 Hz
operational current rated value	28 A
operational current at AC-3 at 400 V rated value	28 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	22 kW
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	Yes
trip class	CLASS 10
design of the overload release	thermal
breaking capacity operating short-circuit current (Ics)	thermal
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
breaking capacity maximum short-circuit current (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
response value current of instantaneous short-circuit trip	364 A
unit	
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	28 A
at 600 V rated value	28 A
yielded mechanical performance [hp]	
f : 1 1 AO 1	
 for single-phase AC motor 	
for single-phase AC motor— at 110/120 V rated value	2 hp
5 1	2 hp 5 hp
— at 110/120 V rated value	·
— at 110/120 V rated value — at 230 V rated value	·
 — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor 	5 hp
 at 110/120 V rated value at 230 V rated value for 3-phase AC motor at 200/208 V rated value 	7.5 hp
 at 110/120 V rated value at 230 V rated value for 3-phase AC motor at 200/208 V rated value at 220/230 V rated value 	7.5 hp 10 hp
— at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value Short-circuit protection	7.5 hp 10 hp
— at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value Short-circuit protection product function short circuit protection	5 hp 7.5 hp 10 hp 20 hp
— at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value Short-circuit protection	5 hp 7.5 hp 10 hp 20 hp
— at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value Short-circuit protection product function short circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit	5 hp 7.5 hp 10 hp 20 hp Yes magnetic
- at 110/120 V rated value - at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 460/480 V rated value Short-circuit protection product function short circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit	5 hp 7.5 hp 10 hp 20 hp Yes magnetic gL/gG 63 A
- at 110/120 V rated value - at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 460/480 V rated value Short-circuit protection product function short circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V • at 500 V	5 hp 7.5 hp 10 hp 20 hp Yes magnetic gL/gG 63 A gL/gG 63 A
- at 110/120 V rated value - at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 460/480 V rated value Short-circuit protection product function short circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V	5 hp 7.5 hp 10 hp 20 hp Yes magnetic gL/gG 63 A

mounting position	any
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
height	97 mm
width	45 mm
depth	97 mm
required spacing	
• for grounded parts at 400 V	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
● for live parts at 400 V	
— downwards	30 mm
— 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	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	
product component 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	
type or commoduable communities of cool coolies	
• for main contacts	
	2x (1 2,5 mm²), 2x (2,5 10 mm²)
for main contacts	2x (1 2,5 mm²), 2x (2,5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
for main contacts — solid or stranded	
 for main contacts — solid or stranded — finely stranded with core end processing 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
 for main contacts — solid or stranded — finely stranded with core end processing at AWG cables for main contacts 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
 for main contacts — solid or stranded — finely stranded with core end processing at AWG cables for main contacts tightening torque 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8)
 for main contacts — solid or stranded — finely stranded with core end processing at AWG cables for main contacts tightening torque for main contacts with screw-type terminals 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) 2 2.5 N·m
for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm
for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm
for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2
for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts safety related data	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2
for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4
for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts afety related data B10 value • with high demand rate acc. to SN 31920	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2
for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4

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
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front
display version for switching status	Handle

Certificates/ approvals

General Product Approval

For use in hazardous locations













For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping





UK Declaration of Conformity Type Test Certificates/Test Report

Special Test Certificate



Marine / Shipping













other

Railway

Confirmation



Vibration and Shock

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=3RV2021-4NA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4NA10

 ${\bf Service \& Support\ (Manuals,\ Certificates,\ Characteristics,\ FAQs,...)}$

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4NA10

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

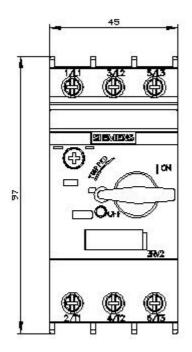
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4NA10&lang=en

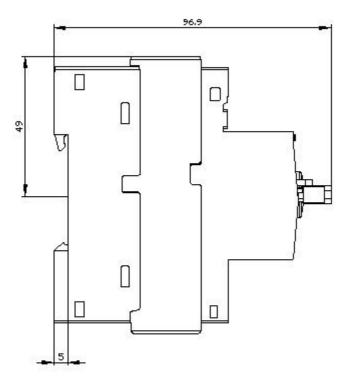
Characteristic: Tripping characteristics, I2t, Let-through current

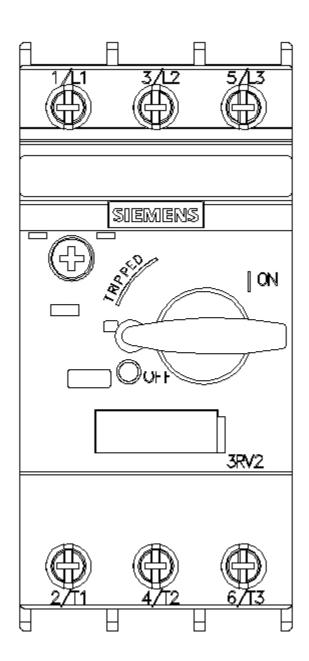
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4NA10/char

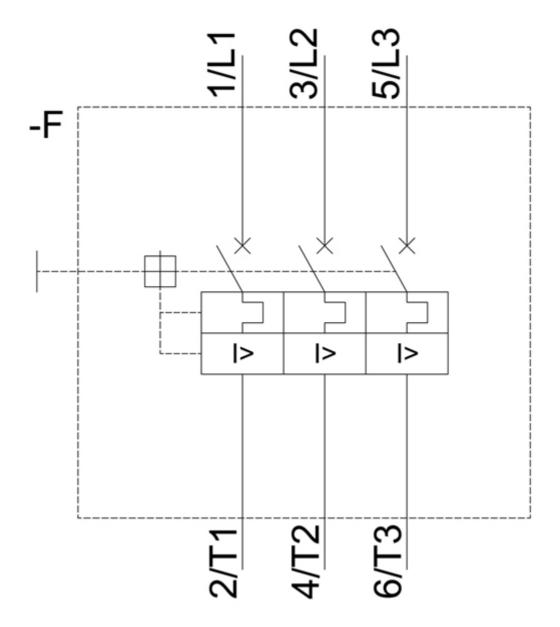
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4NA10&objecttype=14&gridview=view1









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