SIEMENS

Data sheet 3RV2021-4NA40

Siemens EcoTech

Circuit breaker size S0 for motor protection, CLASS 10 A-release 23...28 A N-release 364 A ring cable lug connection 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
shock resistance according to IEC 60068-2-27	25g / 11 ms
mechanical service life (operating cycles)	
● of the main contacts typical	100 000
● of auxiliary contacts typical	100 000
electrical endurance (operating cycles) typical	100 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	Lead - 7439-92-1 Lead titanium zirconium oxide - 12626-81-2
Net Weight	0.368 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	23 ... 28 A
type of voltage for main current circuit	AC
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	28 A
operational current	
● at AC-3 at 400 V rated value	28 A
● at AC-3e 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
● 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	22 kW
operating frequency	
● at AC-3 maximum	15 1/h
● at AC-3e maximum	15 1/h
Auxiliary circuit	
type of voltage for auxiliary and control circuit	AC/DC
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
maximum short-circuit current breaking capacity (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
operating short-circuit current breaking capacity (Ics) 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
response value current of instantaneous short-circuit trip unit	364 A
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]	
● for single-phase AC motor	
— at 110/120 V rated value	2 hp
— at 230 V rated value	5 hp
● for 3-phase AC motor	
— at 200/208 V rated value	7.5 hp
— at 220/230 V rated value	10 hp
— at 460/480 V rated value	20 hp
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
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	97 mm
width	45 mm
depth	97 mm
required spacing	
● with side-by-side mounting at the side	0 mm
● 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	
type of electrical connection	
● for main current circuit	Ring cable lug connection
● for auxiliary and control circuit	ring terminal lug connection
arrangement of electrical connectors for main current circuit	Top and bottom
tightening torque	
● for main contacts for ring cable lug	2 ... 2.5 N·m
● for auxiliary contacts for ring cable lug	1.2 ... 0.8 N·m
outer diameter of the usable ring cable lug maximum	7.5 mm
design of screwdriver shaft	Diameter 5 to 6 mm
size of the screwdriver tip	size 2 and Pozidriv 2
design of the thread of the connection screw	
● for main contacts	M4
● of the auxiliary and control contacts	M3
Safety related data	
product function suitable for safety function	Yes
suitability for use	

● safety-related switching on	No
● safety-related switching OFF	Yes
service life maximum	10 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
● with low demand rate according to SN 31920	40 %
● with high demand rate according to SN 31920	50 %
B10 value with high demand rate according to SN 31920	5 000
failure rate [FIT] with low demand rate according to SN 31920	50 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
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	IP00
Display	
display version for switching status	Handle
Approvals Certificates	
Environmental Product Declaration	
● global warming potential [CO2 eq] / during manufacturing	2.68 kg
● global warming potential [CO2 eq] / during sales	0.143 kg
● global warming potential [CO2 eq] / during operation	72.7 kg
● global warming potential [CO2 eq] / after end of life	-0.445 kg
● global warming potential [CO2 eq] / total	75.078 kg

Environment

General Product Approval

Environmental Confirmations

General Product Approval

For use in hazardous locations

For use in hazardous locations

Test Certificates

Special Test Certificate

Type Test Certificates/Test Report

Maritime application

Maritime application

other

Miscellaneous

Confirmation

other

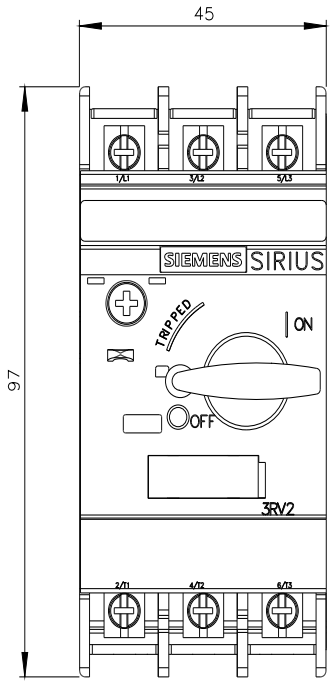
Railway

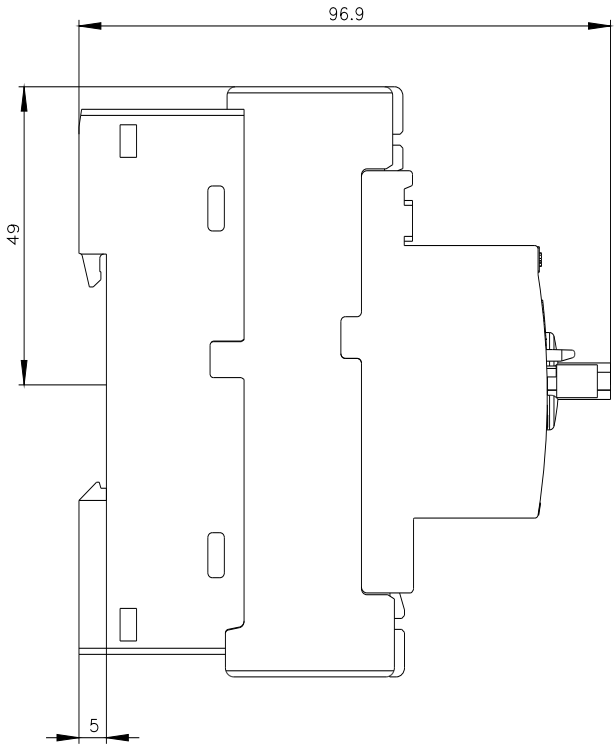
Special Test Certific-ate

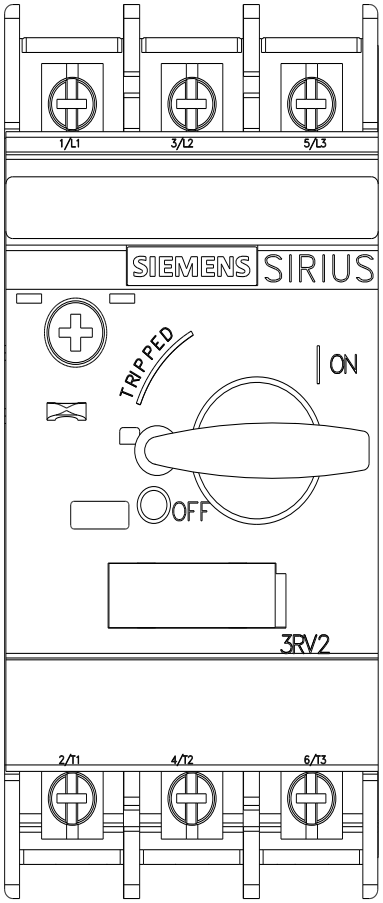
Confirmation

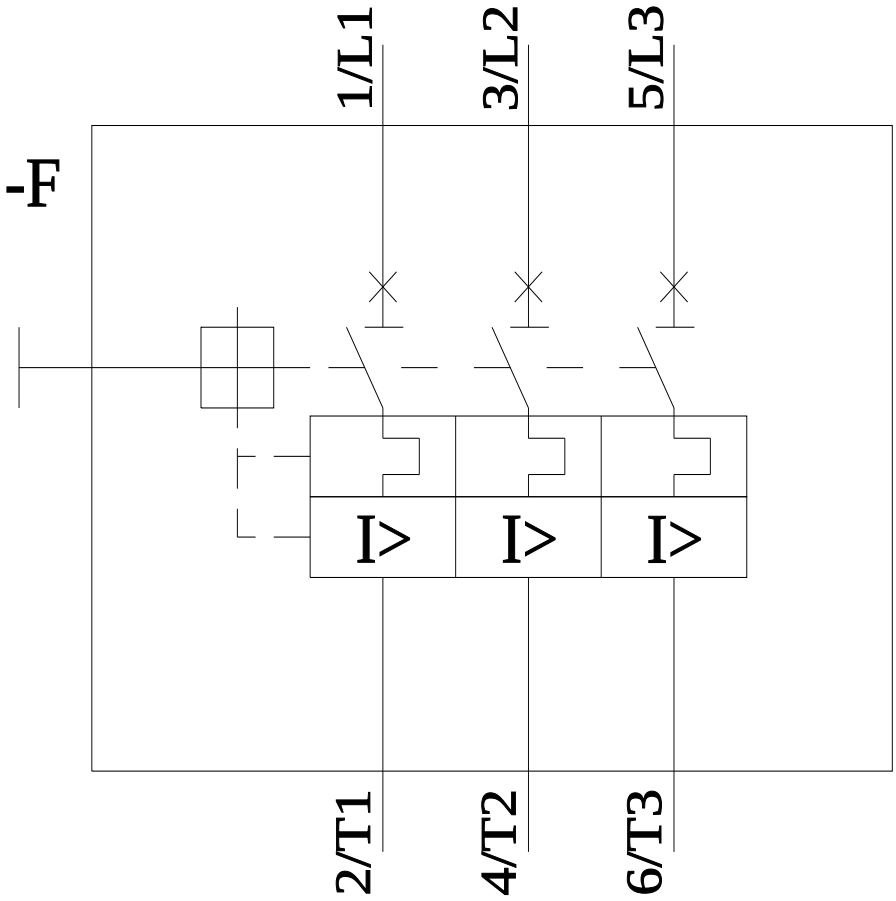
Further information

Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information for data generation and storage
https://support.industry.siemens.com/cs/ww/en/view/109995012
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=3RV2021-4NA40
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4NA40
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4NA40&lang=en
Cax online generator
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4NA40
Characteristic curves
https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod__no>









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