

Siemens
EcoTech



Circuit breaker size S3 for motor protection, CLASS 10 A-release 36...50 A N-release 650 A screw terminal Standard switching capacity with transverse auxiliary switches 1 NO+1 NC



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	27 W
• at AC in hot operating state per pole	9 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
Weight	2.225 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 %
Environmental footprint	
Environmental Product Declaration (EPD)	Yes
global warming potential [CO2 eq] total	283.24 kg
global warming potential [CO2 eq] during manufacturing	18.5 kg
global warming potential [CO2 eq] during sales	1.24 kg
global warming potential [CO2 eq] during operation	265 kg
global warming potential [CO2 eq] after end of life	-1.5 kg
Siemens Eco Profile (SEP)	Siemens EcoTech

Main circuit	
number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	36 ... 50 A
type of voltage for main current circuit	AC
operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum	20 ... 690 V 690 V 690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	50 A
operational current • at AC-3 at 400 V rated value • at AC-3e at 400 V rated value	50 A 50 A
operating power • at AC-3 — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value • at AC-3e — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value	11 kW 22 kW 30 kW 45 kW 11 kW 22 kW 30 kW 45 kW
operating frequency • at AC-3 maximum • at AC-3e maximum	15 1/h 15 1/h
Auxiliary circuit	
design of the auxiliary switch	transverse
type of voltage for auxiliary and control circuit	AC/DC
number of NC contacts for auxiliary contacts	1
number of NO contacts for auxiliary contacts	1
number of CO contacts for auxiliary contacts	0
operational current of auxiliary contacts at AC-15 • at 24 V • at 230 V	2 A 0.5 A
operational current of auxiliary contacts at DC-13 • at 24 V • at 60 V	1 A 0.15 A
Protective and monitoring functions	
product function • ground fault detection • phase failure detection	No 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 • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value	100 kA 65 kA 12 kA 6 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	100 kA 30 kA 6 kA 3 kA
response value current of instantaneous short-circuit trip unit	650 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value	50 A 50 A

yielded mechanical performance [hp]	
- for single-phase AC motor - 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 - at 575/600 V rated value	5 hp 10 hp 15 hp 20 hp 40 hp 50 hp
contact rating of auxiliary contacts according to UL	C300 / R300
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 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 - for grounded parts at 400 V - downwards - upwards - at the side - for live parts at 400 V - downwards - upwards - at the side - for grounded parts at 500 V - downwards - upwards - at the side - for live parts at 500 V - downwards - upwards - at the side - for grounded parts at 690 V - downwards - upwards - at the side - for live parts at 690 V - downwards - upwards - at the side	0 mm 70 mm 70 mm 10 mm 70 mm 70 mm 10 mm 110 mm 110 mm 10 mm 110 mm 110 mm 10 mm 150 mm 150 mm 30 mm 150 mm 150 mm 30 mm
Connections/ Terminals	
type of electrical connection	
- for main current circuit - for auxiliary and control circuit	screw-type terminals screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom
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 ... 16 mm²) 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 auxiliary contacts - finely stranded with core end processing - for AWG cables for auxiliary contacts	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14)

tightening torque • for main contacts for ring cable lug	4.5 ... 6 N·m
outer diameter of the usable ring cable lug maximum	19 mm
tightening torque • for main contacts with screw-type terminals • for auxiliary contacts with screw-type terminals	4.5 ... 6 N·m 0.8 ... 1.2 N·m
design of the thread of the connection screw • of the auxiliary and control contacts	M3
Safety related data	
product function suitable for safety function	Yes
suitability for use • safety-related switching on • safety-related switching OFF	No 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 • with high demand rate according to SN 31920	40 % 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	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	



[KC](#)



General Product Approval	For use in hazardous locations	Test Certificates	Maritime application
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application	other
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[Miscellaneous](#)

other	Railway	Environment
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[Confirmation](#)



[Special Test Certificate](#)



Environment

[Environmental Confirmations](#)

Further information

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=3RV2041-4HA15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2041-4HA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2041-4HA15>

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

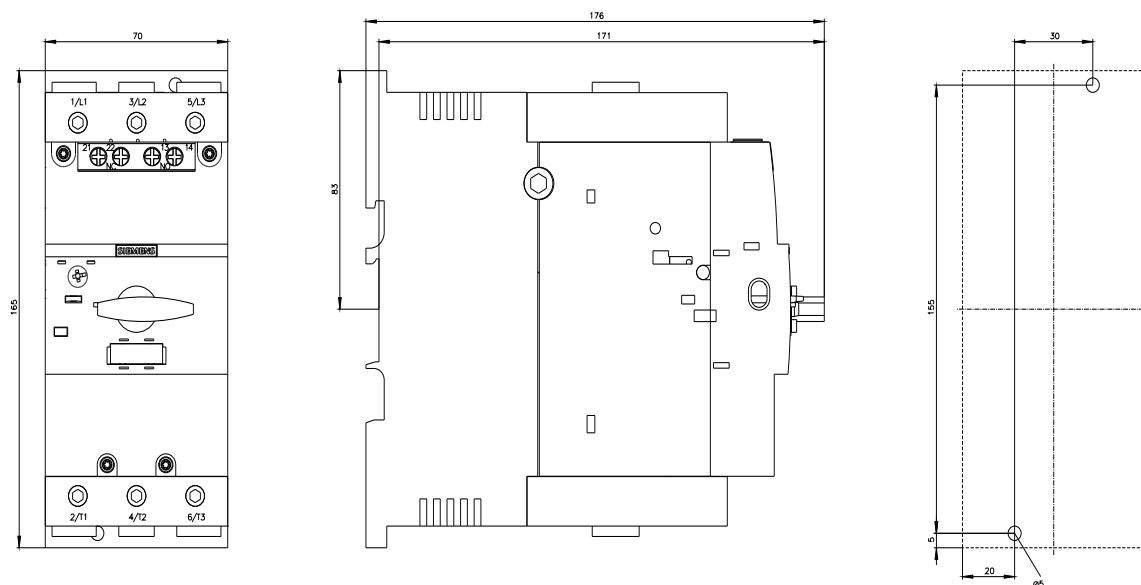
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2041-4HA15&lang=en

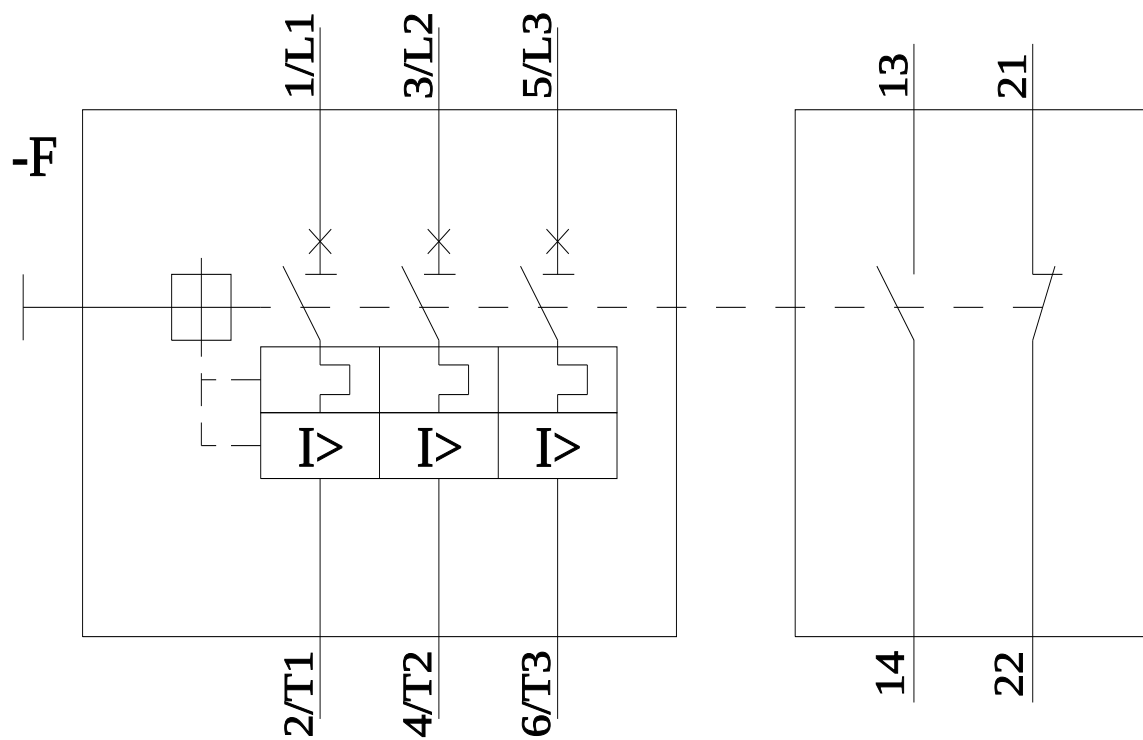
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2041-4HA15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2041-4HA15&objecttype=14&gridview=view1>





last modified:

5/16/2025 