

Siemens
EcoTech



Circuit breaker size S3 for motor protection CLASS 10 with overload relay function
A-release 28...40 A N-release 520 A screw terminal Increased switching capacity
100 kA



product brand name	SIRIUS
product designation	Circuit breaker
design of the product	For motor protection with overload relay function
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	23 W
• at AC in hot operating state per pole	7.7 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	28 ... 40 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

operational current rated value	40 A
operational current	
• at AC-3 at 400 V rated value	40 A
• at AC-3e at 400 V rated value	40 A
operating power	
• at AC-3	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	22 kW
— at 690 V rated value	37 kW
• at AC-3e	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	22 kW
— at 690 V rated value	37 kW
operating frequency	
• at AC-3 maximum	15 1/h
• at AC-3e maximum	15 1/h
Auxiliary circuit	
number of NC contacts for auxiliary contacts	
• note	1
number of NO contacts for auxiliary contacts	
• note	1
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	100 kA
• at AC at 500 V rated value	18 kA
• at AC at 690 V rated value	12 kA
operating short-circuit current breaking capacity (Ics) at AC	
• at 240 V rated value	100 kA
• at 400 V rated value	50 kA
• at 500 V rated value	9 kA
• at 690 V rated value	6 kA
response value current of instantaneous short-circuit trip unit	520 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	40 A
• at 600 V rated value	40 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	3 hp
— at 230 V rated value	7.5 hp
• for 3-phase AC motor	
— at 200/208 V rated value	15 hp
— at 220/230 V rated value	15 hp
— at 460/480 V rated value	30 hp
— at 575/600 V rated value	40 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 DIN rail according to DIN EN 60715
height	165 mm

width	90 mm
depth	176 mm
required spacing	
<ul style="list-style-type: none"> ● with side-by-side mounting at the side 	0 mm
<ul style="list-style-type: none"> ● for grounded parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side 	70 mm 70 mm 10 mm
<ul style="list-style-type: none"> ● for live parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side 	70 mm 70 mm 10 mm
<ul style="list-style-type: none"> ● for grounded parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side 	110 mm 110 mm 10 mm
<ul style="list-style-type: none"> ● for live parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side 	110 mm 110 mm 10 mm
<ul style="list-style-type: none"> ● for grounded parts at 690 V <ul style="list-style-type: none"> — downwards — upwards — backwards — at the side — forwards 	150 mm 150 mm 0 mm 30 mm 0 mm
<ul style="list-style-type: none"> ● for live parts at 690 V <ul style="list-style-type: none"> — downwards — upwards — backwards — at the side — forwards 	150 mm 150 mm 0 mm 30 mm 0 mm

Connections/ Terminals

type of electrical connection	
<ul style="list-style-type: none"> ● 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	
<ul style="list-style-type: none"> ● for main contacts <ul style="list-style-type: none"> — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing 	2x (2.5 ... 16 mm ²) 2x (2.5 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²) 2x (10 ... 35 mm ²), 1x (10 ... 50 mm ²)
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> ● for auxiliary contacts <ul style="list-style-type: none"> — finely stranded with core end processing ● for AWG cables for auxiliary contacts 	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
tightening torque	
<ul style="list-style-type: none"> ● 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	
<ul style="list-style-type: none"> ● 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	
<ul style="list-style-type: none"> ● of the auxiliary and control contacts 	M3

Safety related data

product function suitable for safety function	Yes
suitability for use	
<ul style="list-style-type: none"> ● 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	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	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](#)



[KC](#)

General Product Approval	Test Certificates	Marine / Shipping
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Miscellaneous](#)

[Confirmation](#)



Railway	Environment
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[Special Test Certificate](#)

[Confirmation](#)



Siemens EcoTech



[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=3RV2142-4FA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2142-4FA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2142-4FA10>

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

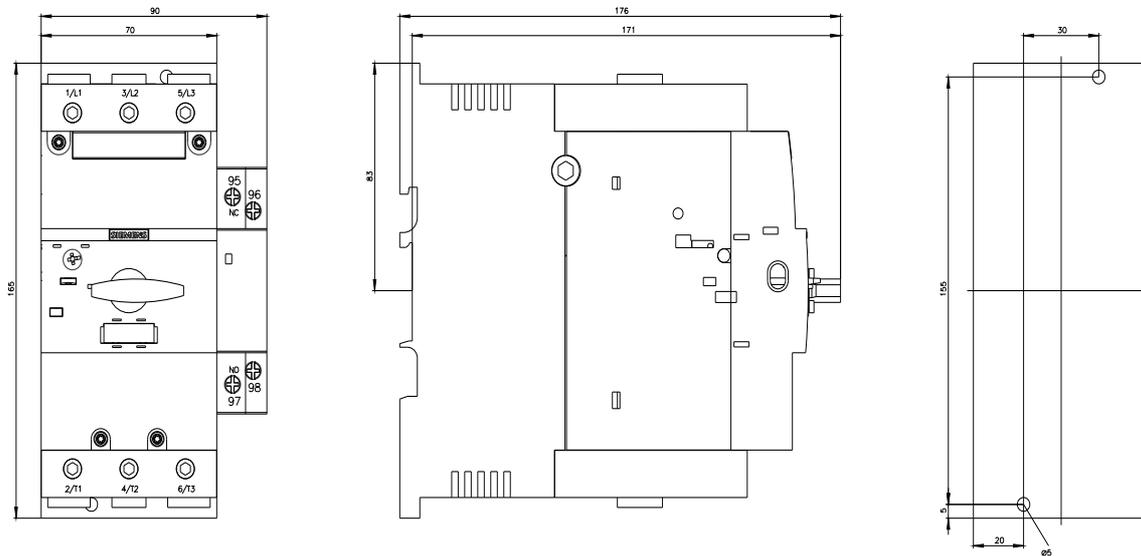
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2142-4FA10&lang=en

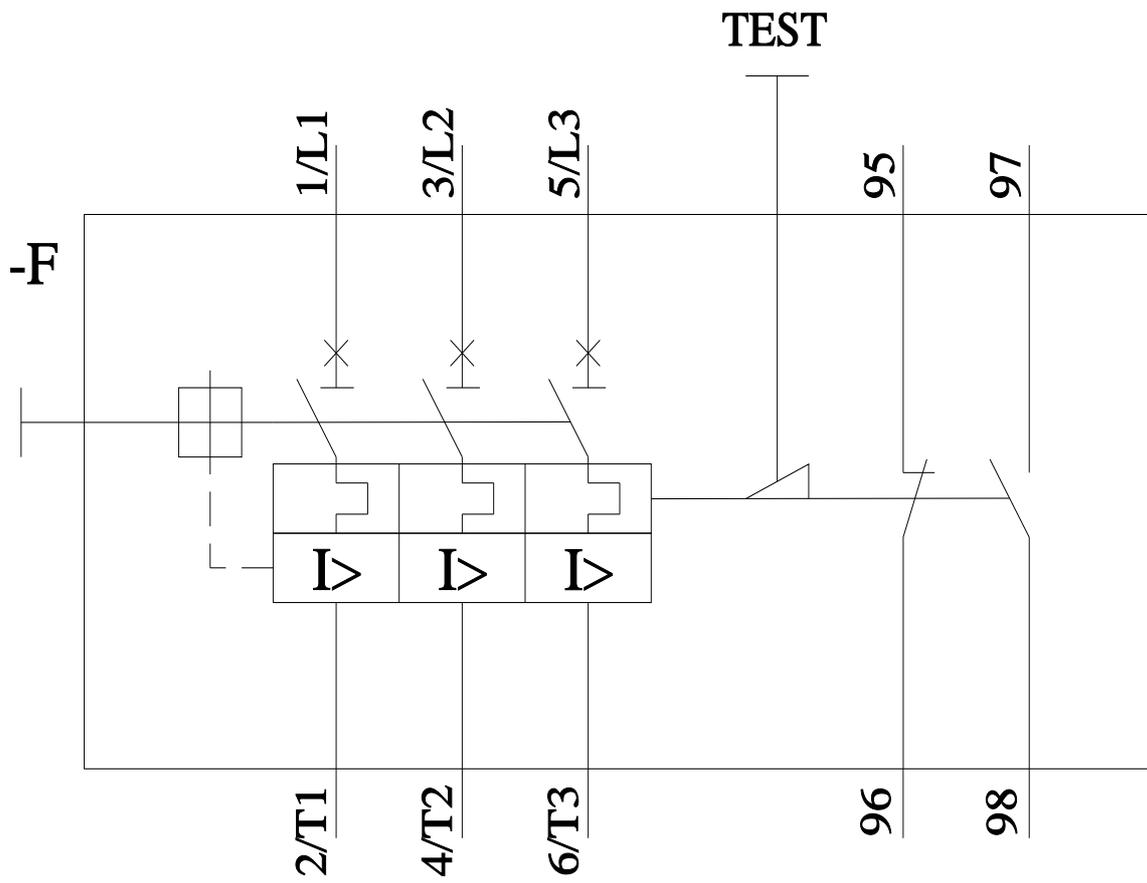
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2142-4FA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2142-4FA10&objecttype=14&gridview=view1>





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