

Siemens
EcoTech























Circuit breaker size S0 for motor protection, CLASS 10 A-release 27...32 A N-release 400 A Spring-type 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
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 titanium zirconium oxide - 12626-81-2
Net Weight	430 g
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	27 ... 32 A
type of voltage for main current circuit	AC
operating voltage	
• rated value	20 ... 690 V

<ul style="list-style-type: none"> • at AC-3 rated value maximum 	690 V
<ul style="list-style-type: none"> • at AC-3e rated value maximum 	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	32 A
operational current	
<ul style="list-style-type: none"> • at AC-3 at 400 V rated value 	32 A
<ul style="list-style-type: none"> • at AC-3e at 400 V rated value 	32 A
operating power	
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value 	7.5 kW 15 kW 18.5 kW 30 kW
<ul style="list-style-type: none"> • at AC-3e <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value 	7.5 kW 15 kW 18.5 kW 30 kW
operating frequency	
<ul style="list-style-type: none"> • at AC-3 maximum 	15 1/h
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • ground fault detection 	No
<ul style="list-style-type: none"> • phase failure detection 	Yes
trip class	CLASS 10
design of the overload release	thermal
maximum short-circuit current breaking capacity (I_{cu})	
<ul style="list-style-type: none"> • at AC at 240 V rated value 	100 kA
<ul style="list-style-type: none"> • at AC at 400 V rated value 	55 kA
<ul style="list-style-type: none"> • at AC at 500 V rated value 	10 kA
<ul style="list-style-type: none"> • at AC at 690 V rated value 	4 kA
operating short-circuit current breaking capacity (I_{cs}) at AC	
<ul style="list-style-type: none"> • at 240 V rated value 	100 kA
<ul style="list-style-type: none"> • at 400 V rated value 	25 kA
<ul style="list-style-type: none"> • at 500 V rated value 	5 kA
<ul style="list-style-type: none"> • at 690 V rated value 	2 kA
response value current of instantaneous short-circuit trip unit	400 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
<ul style="list-style-type: none"> • at 480 V rated value 	32 A
<ul style="list-style-type: none"> • at 600 V rated value 	32 A
yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value 	2 hp 5 hp
<ul style="list-style-type: none"> • for 3-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value 	7.5 hp 10 hp 20 hp
Category Control Number (CCN)	E156943 (NKJH, NKJH7)
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	
<ul style="list-style-type: none"> • at 400 V • at 500 V • at 690 V 	gL/gG 63 A gL/gG 63 A 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	119 mm
width	45 mm
depth	97 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 	30 mm 30 mm 9 mm
<ul style="list-style-type: none"> • for live parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side 	30 mm 30 mm 9 mm
<ul style="list-style-type: none"> • for grounded parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side 	30 mm 30 mm 9 mm
<ul style="list-style-type: none"> • for live parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side 	30 mm 30 mm 9 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 	50 mm 50 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 	50 mm 50 mm 0 mm 30 mm 0 mm
Connections/ Terminals	
type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit 	spring-loaded 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 or stranded — finely stranded with core end processing — finely stranded without core end processing 	2x (1 ... 10 mm²) 2x (1 ... 6 mm²) 2x (1 ... 6 mm²)
<ul style="list-style-type: none"> • for AWG cables for main contacts 	2x (18 ... 8)
design of screwdriver shaft	Diameter 3 mm
size of the screwdriver tip	3,0 x 0,5 mm
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 <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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					
Environmental Product Declaration					
<ul style="list-style-type: none">• global warming potential [CO2 eq] / during manufacturing• global warming potential [CO2 eq] / during sales• global warming potential [CO2 eq] / during operation• global warming potential [CO2 eq] / after end of life• global warming potential [CO2 eq] / total	2.68 kg 0.143 kg 72.7 kg -0.445 kg 75.078 kg				
Environment	General Product Approval				
<div><div></div><div></div><div></div><div>Environmental Confirmations</div><div></div><div></div><div></div></div>					
General Product Approval					
For use in hazardous locations					
<div><div></div><div></div><div></div><div></div><div></div><div></div></div>					
For use in hazardous locations	Test Certificates	Maritime application			
	Type Test Certificates/Test Report	Special Test Certificate			
		<div><div></div><div></div><div></div></div>			
Maritime application		other			
			Miscellaneous		Confirmation
other	Railway				



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=3RV2021-4EA20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4EA20>

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

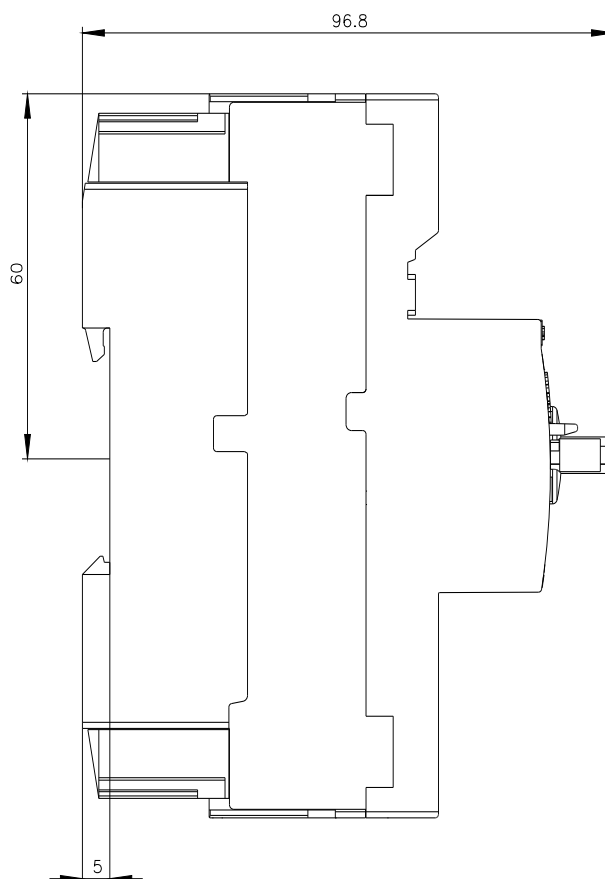
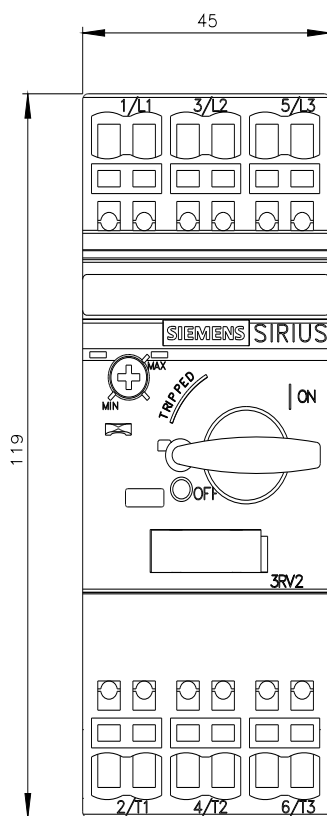
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4EA20&lang=en

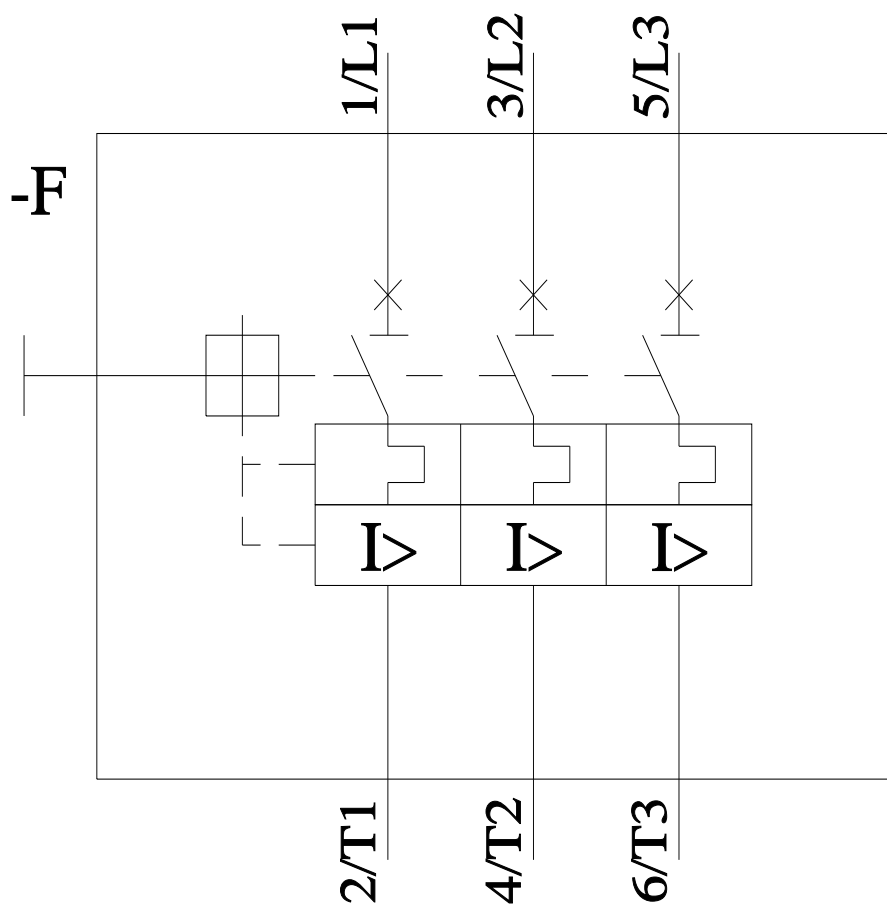
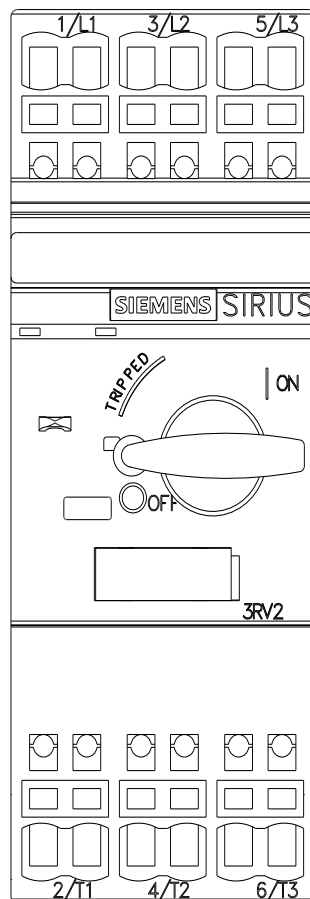
Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4EA20>

Characteristic curves

https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>





last modified:

11/13/2025