

Siemens
EcoTech



circuit breaker frame size S0 for system protection with approval circuit breaker UL 489, CSA C22.2 no. 5-02 thermal overload release 22 A short-circuit release 286 A screw terminal standard switching capacity

product brand name	SIRIUS
product designation	Circuit breaker
design of the product	For system protection according to UL 489/CSA C22.2 No. 5
product type designation	3RV2
General technical data	
Product equipment of circuit breaker for motor protection complete unit with protection device	Yes
size of the circuit-breaker	S0
product function disconnecter functionality	Yes
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	10.5 W
• at AC in hot operating state per pole	3.5 W
type of calculation of power loss current-dependent	quadratic
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
• in networks with ungrounded star point between main and auxiliary circuit	400 V
• in networks with grounded star point between main and auxiliary circuit	400 V
protection class IP	
• on the front according to IEC 60529	IP20
• on the front	IP20
• of the terminal	IP00
shock resistance according to IEC 60068-2-27	25 g / 11 ms (rectangular impulse and sine pulse)
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
continuous current rated value	22 A
Substance Prohibitance (day/month/year)	10/01/2009
Net Weight	505 g
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	

- during operation - during storage - during transport	-20 ... +60 °C -50 ... +80 °C -50 ... +80 °C
temperature compensation	-20 ... +60 °C
relative humidity during operation	10 ... 95 %
Main circuit	
number of poles for main current circuit	3
type of voltage for main current circuit	AC
operating voltage - rated value - rated value - at AC-3 rated value maximum - at AC-3e rated value maximum	690 V 20 ... 690 V 690 V 690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	22 A
operational current - at AC-3 at 400 V rated value - at AC-3e at 400 V rated value	22 A 22 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	5.5 kW 11 kW 11 kW 18.5 kW 5.5 kW 11 kW 11 kW 18.5 kW
operating frequency - at AC-3 maximum - at AC-3e maximum	15 1/h 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 - phase failure detection	No No
design of the overload release	thermal
protection function thermal overload protection (ANSI 49)	Yes
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 - at 480 AC Y/277 V according to UL 489 rated value	100 kA 55 kA 10 kA 4 kA 50 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 25 kA 5 kA 2 kA
response value current of instantaneous short-circuit trip unit	286 A
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	gG 63 A
• at 500 V	gG 50 A
• at 690 V	gG 50 A
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
Mounting method of circuit breaker for Transformer protection, Generator protection and system protection optional standard bar mounting	Yes
height	144 mm
width	45 mm
depth	97 mm
required spacing	
• for grounded parts at 400 V	
— downwards	30 mm
— upwards	30 mm
— at the side	30 mm
• for live parts at 400 V	
— downwards	30 mm
— upwards	30 mm
— at the side	30 mm
• for grounded parts at 500 V	
— downwards	30 mm
— upwards	30 mm
— at the side	30 mm
• for live parts at 500 V	
— downwards	30 mm
— upwards	30 mm
— at the side	30 mm
• for grounded parts at 690 V	
— downwards	70 mm
— upwards	70 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
• for live parts at 690 V	
— downwards	70 mm
— upwards	70 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	
• for main contacts	
— solid or stranded	1 ... 10 mm ² , max. 2x 10 mm ²
— finely stranded with core end processing	1 ... 16 mm ² , max. 6 + 16 mm ²
• for AWG cables for main contacts	2x (14 ... 10)
connectable conductor cross-section for main contacts	
• solid or stranded	1 ... 10 mm ²
• finely stranded with core end processing	1 ... 16 mm ²
AWG number as coded connectable conductor cross section for main contacts	10
tightening torque	

• for main contacts with screw-type terminals	2.5 ... 3 N·m
design of screwdriver shaft	Diameter 5 to 6 mm
size of the screwdriver tip	Pozidriv size 2
design of the thread of the connection screw	
• for main contacts	M4

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	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

• 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

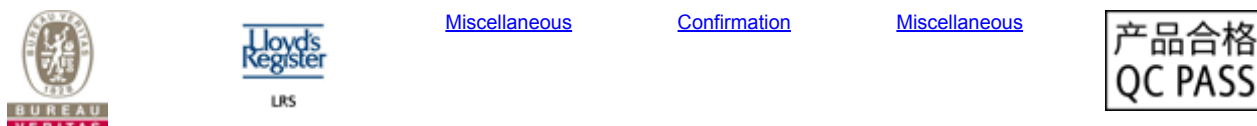
[Environmental Confirmations](#)



General Product Approval Test Certificates



Maritime application 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=3RV2721-4CD10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2721-4CD10>

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

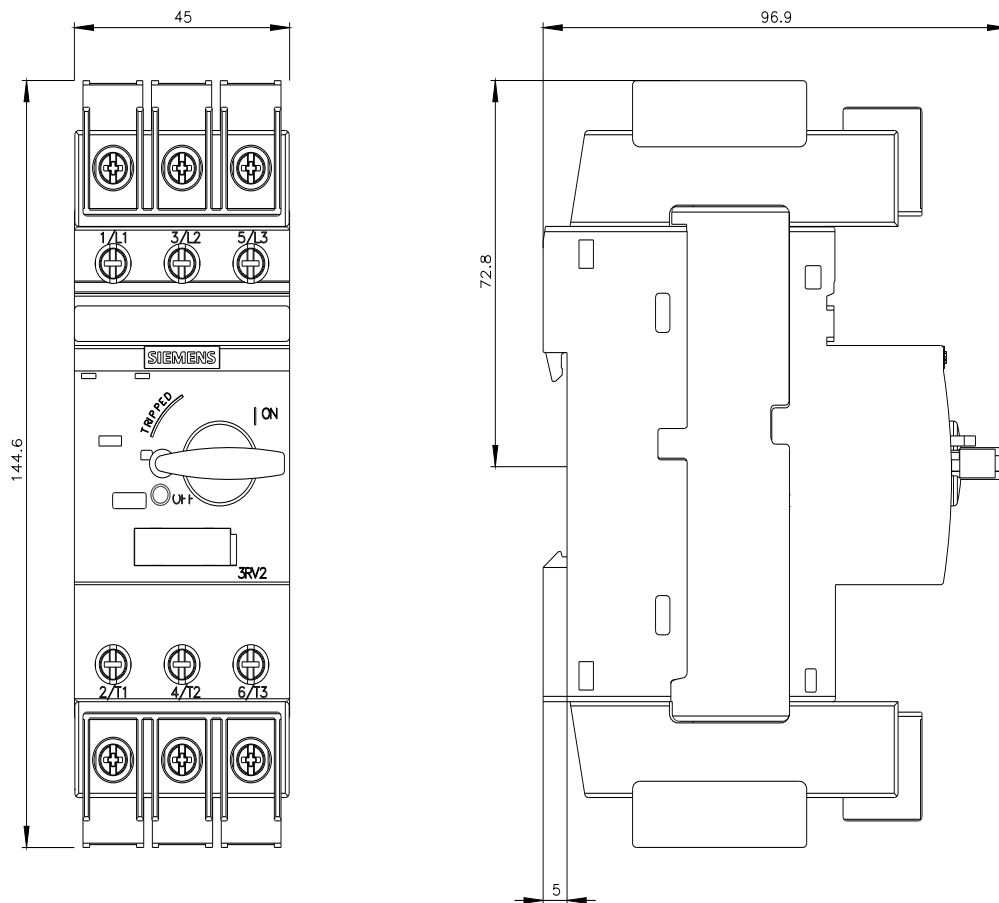
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2721-4CD10&lang=en

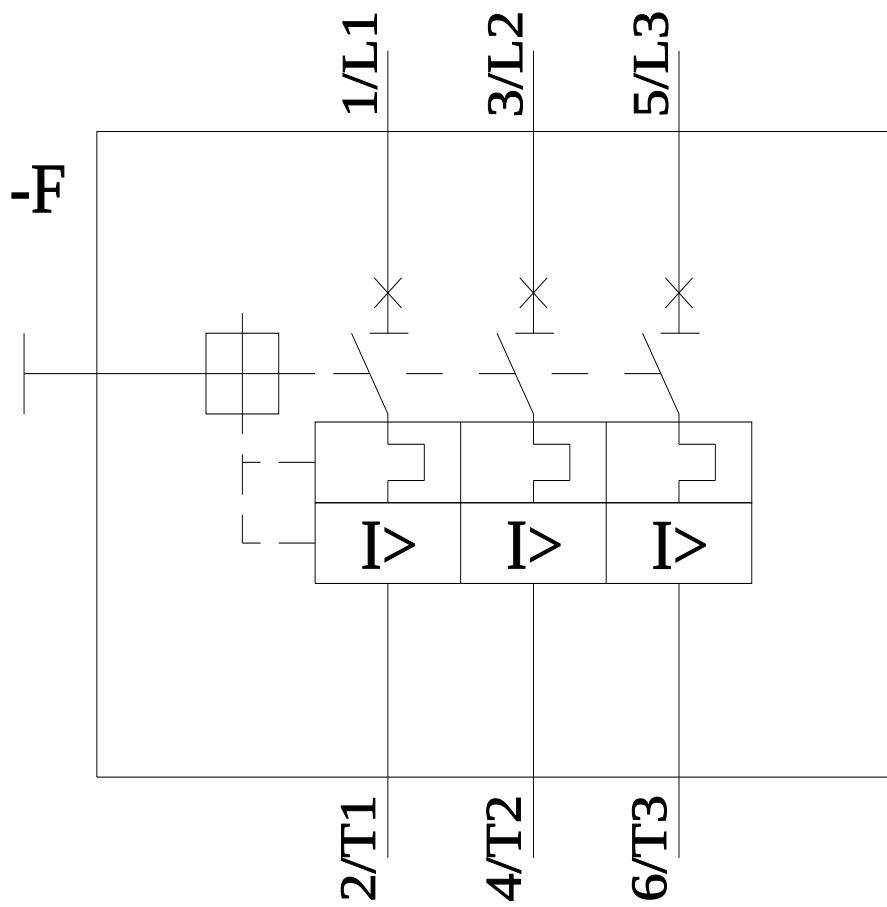
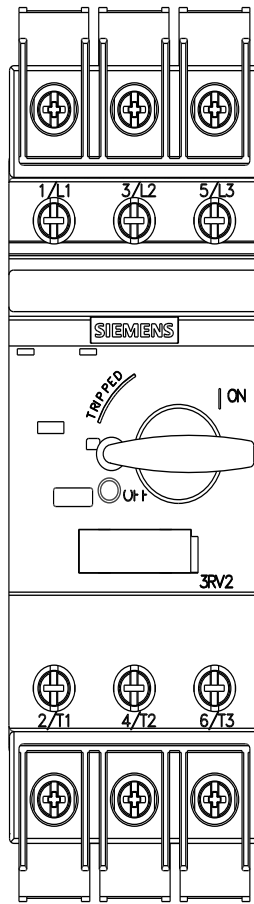
Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2721-4CD10>

Characteristic curves

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





last modified:

5/5/2026