SIEMENS

Data sheet 3RT2446-1AP00

contactor AC-1, 140 A, 690 V / 40 °C, 3-pole, 230 V AC, 50 Hz, auxiliary contacts: 1 NO + 1 NC, main circuit: box terminal, control and auxiliary circuit: screw terminal, size: S3

product brand name	SIRIUS
product designation	Contactor
product type designation	3RT24
General technical data	
size of contactor	S3
product extension	
● function module for communication	No
● auxiliary switch	Yes
power loss [W] for rated value of the current	
● at AC in hot operating state	29.4 W
● at AC in hot operating state per pole	9.8 W
● without load current share typical	7.3 W
insulation voltage	
● of main circuit with degree of pollution 3 rated value	1 000 V
● of auxiliary circuit with degree of pollution 3 rated value	690 V
surge voltage resistance	
● of main circuit rated value	8 kV
● of auxiliary circuit rated value	6 kV
shock resistance at rectangular impulse	
● at AC	10.3g / 5 ms, 6,.g / 10 ms
shock resistance with sine pulse	
● at AC	16.3g / 5 ms, 10.g / 10 ms
mechanical service life (operating cycles)	
● of contactor typical	10 000 000
● of the contactor with added electronically optimized auxiliary switch block typical	5 000 000
● of the contactor with added auxiliary switch block typical	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	03/01/2017
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-55 ... +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0

type of voltage for main current circuit	AC
operational current	
● at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	140 A
— up to 690 V at ambient temperature 55 °C rated value	130 A
— up to 690 V at ambient temperature 60 °C rated value	130 A
— up to 1000 V at ambient temperature 40 °C rated value	60 A
— up to 1000 V at ambient temperature 60 °C rated value	60 A
● at AC-3	
— at 400 V rated value	44 A
— at 690 V rated value	44 A
minimum cross-section in main circuit at maximum AC-1 rated value	50 mm²
no-load switching frequency	
● at AC	5 000 1/h
operating frequency at AC-1 maximum	650 1/h
Control circuit/ Control	
type of voltage	AC
type of voltage of the control supply voltage	AC
control supply voltage at AC	
● at 50 Hz rated value	230 V
operating range factor control supply voltage rated value of magnet coil at AC	
● at 50 Hz	0.8 ... 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	296 VA
inductive power factor with closing power of the coil	
● at 50 Hz	0.61
apparent holding power of magnet coil at AC	
● at 50 Hz	19 VA
inductive power factor with the holding power of the coil	
● at 50 Hz	0.38
closing delay	
● at AC	13 ... 50 ms
opening delay	
● at AC	10 ... 21 ms
arcing time	10 ... 20 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts	1
● attachable	2
● instantaneous contact	1
number of NO contacts for auxiliary contacts	1
● attachable	2
● instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
● at 230 V rated value	6 A
● at 400 V rated value	3 A
● at 500 V rated value	2 A
● at 690 V rated value	1 A
operational current at DC-13	
● at 24 V rated value	10 A
● at 48 V rated value	2 A
● at 60 V rated value	2 A
● at 110 V rated value	1 A
● at 125 V rated value	0.9 A
● at 220 V rated value	0.3 A

● at 600 V rated value	0.1 A
design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required	gG: 10 A (230 V, 400 A)
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
Short-circuit protection	
product function short circuit protection	No
design of the fuse link	
● for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 250 A (690 V,100 kA)
— with type of assignment 2 required	gR: 250 A (690 V, 100 kA)
● for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
● side-by-side mounting	Yes
height	140 mm
width	70 mm
depth	152 mm
required spacing	
● with side-by-side mounting	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
● for grounded parts	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
● for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/ Terminals	
type of electrical connection	
● for main current circuit	box terminal
● for auxiliary and control circuit	screw-type terminals
● at contactor for auxiliary contacts	Screw-type terminals
● of magnet coil	Screw-type terminals
type of connectable conductor cross-sections for main contacts	
● solid	2x (2.5 ... 16 mm²)
● stranded	2x (2,5 ... 16 mm²), 2x (10 ... 50 mm²), 1x (10 ... 70 mm²)
● solid or stranded	2x (2.5 ... 16 mm²), 2x (10 ... 50 mm²), 1x (10 ... 70 mm²)
● finely stranded with core end processing	2x (2.5 ... 35 mm²), 1x (2.5 ... 50 mm²)
connectable conductor cross-section for main contacts	
● solid	2.5 ... 16 mm²
● solid or stranded	4 ... 70 mm²
● stranded	6 ... 70 mm²
● finely stranded with core end processing	2.5 ... 50 mm²
connectable conductor cross-section for auxiliary contacts	
● solid or stranded	0.5 ... 2.5 mm²
● finely stranded with core end processing	0.5 ... 2.5 mm²
type of connectable conductor cross-sections	
● for auxiliary contacts	
— solid	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
— solid or stranded	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
● for AWG cables for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
Safety related data	

product function	
● mirror contact according to IEC 60947-4-1	Yes
● positively driven operation according to IEC 60947-5-1	No
proportion of dangerous failures	
● with low demand rate according to SN 31920	40 %
● with high demand rate according to SN 31920	73 %
T1 value for proof test interval or service life according to IEC 61508	20 a
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

Certificates/ approvals

General Product Approval

CSA	CCC	Confirmation	UL	KC	EAC

EMC	Functional Safety/Safety of Machinery	Declaration of Conformity		Test Certificates	
RCM	Type Examination Certificate	UKCA	CE EG-Konf.	Type Test Certificates/Test Report	Special Test Certificate

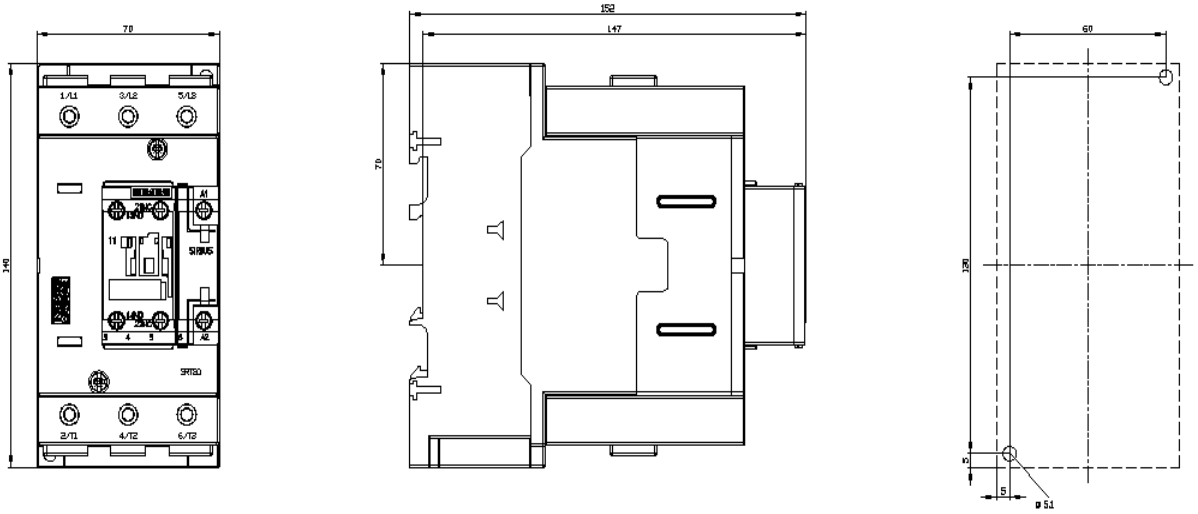
Marine / Shipping

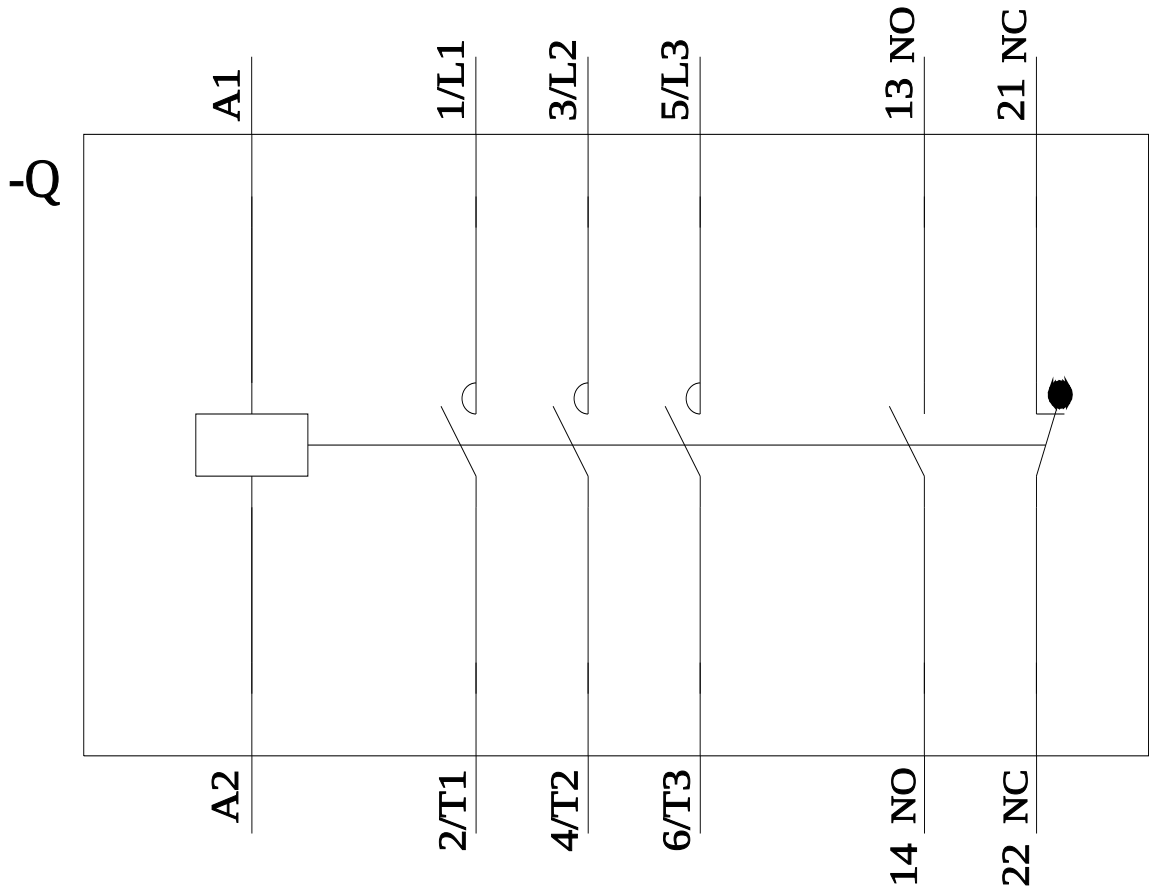
ABS	DNV	LRS	PRS	RINA	RMRS

other	Railway	Dangerous Good
Confirmation	Vibration and Shock	Transport Information

Further information

Siemens has decided to exit the Russian market (see here).
https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business
Siemens is working on the renewal of the current EAC certificates.
Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).
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=3RT2446-1AP00
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2446-1AP00
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RT2446-1AP00
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2446-1AP00&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RT2446-1AP00/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2446-1AP00&objecttype=14&gridview=view1





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