SIEMENS

Data sheet 3RT2544-1NB30



power contactor, AC-3, 65 A, 30 kW / 400 V, 4-pole, 20-33 V AC/DC, 50/60 Hz, with integrated varistor, main contacts: 2 NO + 2 NC, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S3

product brand name	SIRIUS
product designation	contactor
product type designation	3RT25
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 per pole 	3.5 W
 without load current share typical 	3 W
type of calculation of power loss depending on pole	quadratic
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
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	6.7 g / 5 ms, 4.0 g / 10 ms
• at DC	6.7 g / 5 ms, 4g / 10 ms
shock resistance with sine pulse	
• at AC	10.6 g / 5 ms, 6.3 g / 10 ms
• at DC	10.6 g / 5 ms, 6.3 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)	09/01/2017
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 Melamine - 108-78-1
Weight	2.15 kg
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	95 %
maximum	
Main circuit	
number of poles for main current circuit	4
number of NO contacts for main contacts	2
number of NC contacts for main contacts	2
operational currentat AC-1 up to 690 V	
— at ambient temperature 40 °C rated value	100 A
— at ambient temperature 40 °C rated value	90 A
• at AC-2 at AC-3 at 400 V	
— per NO contact rated value	65 A
— per NC contact rated value	65 A
minimum cross-section in main circuit at maximum AC-1 rated	35 mm²
value	
operational current	
at 1 current path at DC-1 at 24 V rated value	100 A
— at 24 V rated value — at 110 V rated value	100 A 9 A
— at 220 V rated value	9 A 2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.4 A
with 2 current paths in series at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	10 A
— at 440 V rated value	1.8 A
 at 1 current path at DC-3 at DC-5 	
 — at 24 V per NC contact rated value 	40 A
 — at 24 V per NO contact rated value 	40 A
 — at 110 V per NC contact rated value 	2.5 A
 — at 110 V per NO contact rated value 	2.5 A
 — at 220 V per NC contact rated value 	1 A
 — at 220 V per NO contact rated value 	1 A
— at 440 V per NC contact rated value	0.15 A
— at 440 V per NO contact rated value	0.15 A
with 2 current paths in series at DC-3 at DC-5 at 24 V per NC centest reted value.	400 A
— at 24 V per NC contact rated value	100 A
— at 24 V per NO contact rated value	100 A 100 A
— at 110 V per NC contact rated value— at 110 V per NO contact rated value	100 A 100 A
— at 220 V per NC contact rated value	7 A
— at 220 V per NO contact rated value	7 A
— at 440 V per NC contact rated value	0.42 A
— at 440 V per NO contact rated value	0.42 A
operating power at AC-2 at AC-3	
at 230 V per NC contact rated value	18.5 kW
at 230 V per NO contact rated value	18.5 kW
• at 400 V per NC contact rated value	30 kW
 at 400 V per NO contact rated value 	30 kW
short-time withstand current in cold operating state up to	
40 °C	880 A: Use minimum cross-section acc. to AC 1 rated value
 limited to 1 s switching at zero current maximum limited to 5 s switching at zero current maximum 	880 A; Use minimum cross-section acc. to AC-1 rated value 880 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 5 s switching at zero current maximum Ilmited to 10 s switching at zero current maximum	691 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 10's switching at zero current maximum Ilmited to 30's switching at zero current maximum	437 A; Use minimum cross-section acc. to AC-1 rated value
Ilimited to 50's switching at zero current maximum Ilimited to 60's switching at zero current maximum	344 A; Use minimum cross-section acc. to AC-1 rated value
power loss [W] at AC-3 at 400 V for rated value of the operational current per conductor	3.5 W
power loss [W] at AC-3e at 400 V for rated value of the	3.5 W

operational current per conductor	
no-load switching frequency	4 000 4/1-
• at AC	1 000 1/h
• at DC	1 000 1/h
operating frequency	
at AC-1 maximum	900 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
at 50 Hz rated value	20 33 V
at 60 Hz rated value	20 33 V
control supply voltage at DC rated value	20 33 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.8
full-scale value	1.1
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
• at 60 Hz	0.8 1.1
design of the surge suppressor	with varistor
inrush current peak	6.5 A
duration of inrush current peak	50 µs
locked-rotor current mean value	3.2 A
locked-rotor current peak	6.5 A
duration of locked-rotor current	150 ms
holding current mean value	75 mA
apparent pick-up power of magnet coil at AC	163 VA
• at 50 Hz	163 VA
• at 60 Hz	163 VA
inductive power factor with closing power of the coil	0.95
• at 50 Hz	0.95
• at 60 Hz	0.95
apparent holding power of magnet coil at AC	3.1 VA
• at 50 Hz	3.1 VA
• at 60 Hz	3.1 VA
inductive power factor with the holding power of the coil	0.95
• at 50 Hz	0.95
• at 60 Hz	0.95
closing power of magnet coil at DC	76 W
holding power of magnet coil at DC	1.8 W
closing delay	1.0 11
at AC	50 70 ms
• at DC	50 70 ms
	00 r 0 III3
opening delay	20
• at AC	38 57 ms
• at DC	38 57 ms
arcing time	10 20 ms
control version of the switch operating mechanism	UC
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	1
number of NO contacts for auxiliary contacts 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-12	
at 24 V rated value	10 A

 at 48 V rated value 	6 A
at 60 V rated value	6 A
at 110 V rated value	3 A
at 125 V rated value	2 A
at 220 V rated value	1 A
at 600 V rated value	0.15 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	1A
at 125 V rated value	0.9 A
at 220 V rated value	0.3 A
at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	readity switching per 100 million (17 V, 1 mA)
yielded mechanical performance [hp]	25 ha
for 3-phase AC motor at 460/480 V rated value	25 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
design of the fuse link	
-	
for short-circuit protection of the main circuit with the angle of a particular than 4 particular.	-O-050 A (000) (400 l-A)
— 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)
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 side-by-side mounting	Yes
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	140 mm
width	70 mm
	152 mm
depth	152 111111
required spacing	
with side-by-side mounting	0
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm 0 mm
— at the sidefor grounded parts	0 mm
— at the side• for grounded parts— forwards	0 mm
— at the side• for grounded parts	0 mm 0 mm
— at the side• for grounded parts— forwards	0 mm
— at the side• for grounded parts— forwards— backwards	0 mm 0 mm
 at the side for grounded parts forwards backwards upwards 	0 mm 0 mm 10 mm
 at the side for grounded parts forwards backwards upwards at the side 	0 mm 0 mm 10 mm
 at the side for grounded parts forwards backwards upwards at the side downwards 	0 mm 0 mm 10 mm
 at the side for grounded parts forwards backwards upwards at the side downwards for live parts 	0 mm 0 mm 0 mm 10 mm 10 mm
 at the side for grounded parts forwards backwards upwards at the side downwards for live parts forwards 	0 mm 0 mm 0 mm 10 mm 10 mm 10 mm
 at the side for grounded parts forwards backwards upwards at the side downwards for live parts forwards backwards 	0 mm 0 mm 0 mm 10 mm 10 mm 10 mm 0 mm
 at the side for grounded parts forwards backwards upwards at the side downwards for live parts forwards backwards upwards 	0 mm 0 mm 0 mm 10 mm 10 mm 10 mm 0 mm 10 mm
 at the side for grounded parts forwards backwards upwards at the side downwards for live parts forwards backwards upwards downwards 	0 mm 0 mm 0 mm 10 mm 10 mm 10 mm 10 mm 10 mm
 at the side for grounded parts forwards backwards upwards at the side downwards for live parts forwards backwards upwards upwards downwards at the side Connections/ Terminals	0 mm 0 mm 0 mm 10 mm 10 mm 10 mm 10 mm 10 mm
- at the side • for grounded parts - forwards - backwards - upwards - at the side - downwards • for live parts - forwards - backwards - upwards - upwards - downwards - at the side Connections/ Terminals type of electrical connection	0 mm 0 mm 10 mm
- at the side • for grounded parts - forwards - backwards - upwards - at the side - downwards • for live parts - forwards - backwards - upwards - upwards - at the side Connections/ Terminals type of electrical connection • for main current circuit	0 mm 0 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 0 mm
- at the side • for grounded parts - forwards - backwards - upwards - at the side - downwards • for live parts - forwards - backwards - upwards - upwards - upwards - at the side Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit	0 mm 0 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 0 mm
- at the side • for grounded parts - forwards - backwards - upwards - at the side - downwards • for live parts - forwards - backwards - upwards - upwards - downwards - at the side Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts	0 mm 0 mm 10 mm 10 mm 10 mm 10 mm 10 mm 0 mm
- at the side • for grounded parts - forwards - backwards - upwards - at the side - downwards • for live parts - forwards - backwards - upwards - upwards - downwards - at the side Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil	0 mm 0 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 0 mm
- at the side • for grounded parts - forwards - backwards - upwards - at the side - downwards • for live parts - forwards - backwards - upwards - upwards - downwards - at the side Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts	0 mm 0 mm 10 mm 10 mm 10 mm 10 mm 10 mm 0 mm

• stranded	2x (6 16 mm²), 2x (10 50 mm²), 1x (10 70 mm²)
 solid or stranded 	2x (2.5 16 mm²); [2x (6 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)
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)
AWG number as coded connectable conductor cross section for main contacts	10 2
Safety related data	
product function	
 mirror contact according to IEC 60947-4-1 	Yes
 positively driven operation according to IEC 60947-5-1 	No
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
Approvals Certificates	

General Product Approval









<u>KC</u>



EMV **Test Certificates** Marine / Shipping



Type Test Certificates/Test Report

Special Test Certificate







Marine / Shipping Railway other **Environment**





Confirmation

Special Test Certific-<u>ate</u>

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=3RT2544-1NB30

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2544-1NB30

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2544-1NB30

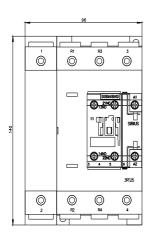
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

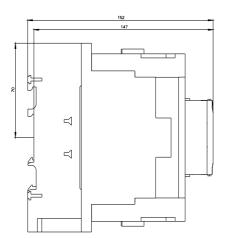
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2544-1NB30&lang=en

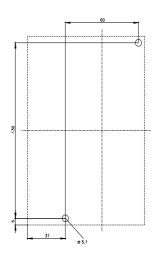
Characteristic: Tripping characteristics, I2t, Let-through current

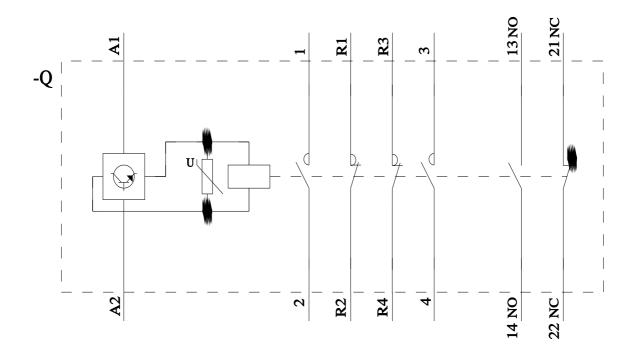
https://support.industry.siemens.com/cs/ww/en/ps/3RT2544-1NB30/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2544-1NB30&objecttype=14&gridview=view1









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