SIEMENS

Data sheet 3RT2545-1AK60

0101110



power contactor, AC-3, 80 A, 37 kW / 400 V, 4-pole, 110 V AC, 50 Hz / 120 V, 60 Hz, main contacts: 2 NO + 2 NC, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S_3

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 	5.3 W
without load current share typical	8.4 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
shock resistance with sine pulse	
• at AC	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
Weight	1.995 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 maximum	95 %
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 current	
• at AC-1 up to 690 V	
— at ambient temperature 40 °C rated value	125 A
— at ambient temperature 60 °C rated value	105 A
• at AC-2 at AC-3 at 400 V	
— per NO contact rated value	80 A
per NC contact rated value	80 A
minimum cross-section in main circuit at maximum AC-1 rated	50 mm²
value	
operational current	
at 1 current path at DC-1	
— at 24 V rated value	100 A
— at 110 V rated value	9 A
— at 220 V rated value	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	1A
— 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	400.4
— at 24 V per NC contact rated value	100 A
— at 24 V per NO contact rated value	100 A
— at 110 V per NC contact rated value	100 A
— at 110 V per NO contact rated value	100 A
— at 220 V per NC contact rated value	7 A
— at 220 V per NO contact rated value	7 A 0.42 A
— at 440 V per NC contact rated value	
— at 440 V per NO contact rated value	0.42 A
operating power at AC-2 at AC-3	22 kW
at 230 V per NC contact rated value at 230 V per NC contact rated value	22 kW 22 kW
 at 230 V per NO contact rated value at 400 V per NC contact rated value 	37 kW
at 400 V per NO contact rated value at 400 V per NO contact rated value	37 kW
short-time withstand current in cold operating state up to 40 °C	OF REV
Iimited to 1 s switching at zero current maximum	1 080 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 1 s switching at zero current maximum	1 080 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 10 s switching at zero current maximum	851 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 30 s switching at zero current maximum	538 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 60 s switching at zero current maximum	423 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	5.3 W
power loss [W] at AC-3e at 400 V for rated value of the operational current per conductor	5.3 W
no-load switching frequency	
• at AC	5 000 1/h
operating frequency	
• at AC-1 maximum	900 1/h

Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	110 V
at 60 Hz rated value	120 V
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
apparent pick-up power of magnet coil at AC	326 VA
● at 50 Hz	326 VA
● at 60 Hz	326 VA
inductive power factor with closing power of the coil	0.62
● at 50 Hz	22
● at 60 Hz	22
apparent holding power of magnet coil at AC	22 VA
● at 50 Hz	0.62 VA
● at 60 Hz	0.62 VA
inductive power factor with the holding power of the coil	0.38
• at 50 Hz	0.38
● at 60 Hz	0.38
closing delay	
• at AC	13 50 ms
opening delay	
• at AC	11 21 ms
arcing time	10 20 ms
control version of the switch operating mechanism	AC
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous	1
contact	
number of NO contacts for auxiliary contacts instantaneous	1
contact operational current at AC-12 maximum	40.4
operational current at AC-12 maximum	10 A
at 230 V rated value	6 A
	3 A
at 400 V rated value at 500 V rated value	
• at 500 V rated value	2 A
at 690 V rated value	1 A
operational current at DC-12	40.4
at 24 V rated value at 49 V rated value	10 A
at 48 V rated value at 60 V rated value	6 A
at 60 V rated value at 440 V rated value	6 A
at 110 V rated value At 125 V rated value	3 A
at 125 V rated value at 230 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	40.4
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
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
yielded mechanical performance [hp]	
• for 3-phase AC motor at 460/480 V rated value	30 hp
and a function of a colling and a function of the colling of the c	1000 / 0000
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	A600 / P600

for short-circuit protection of the main circuit	
with type of coordination 1 required	gG: 250 A (690 V, 100 kA)
with type of coordination required — with type of assignment 2 required	gR: 250 A (690 V, 100 kA)
• • • • • • • • • • • • • • • • • • • •	
for short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions	fuse gG: 10 A
· · · · · · · · · · · · · · · · · · ·	1/190° ratation possible on vertical mounting surface; can be tilted forward and
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
depth	152 mm
required spacing	
 with side-by-side mounting 	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
 for grounded parts 	
— forwards	0 mm
— backwards	0 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
for live parts	
— forwards	0 mm
— backwards	0 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
 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 (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
position, amon operation according to 120 000 Tr 0-1	
Flectrical Safety	
Electrical Safety	IP20
protection class IP on the front according to IEC 60529	IP20 finger-safe, for vertical contact from the front
protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529	IP20 finger-safe, for vertical contact from the front
protection class IP on the front according to IEC 60529	









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EMV

Test Certificates

Marine / Shipping



Type Test Certificates/Test Report









Marine / Shipping

other

Railway

Dangerous goods

Environment





Confirmation

Special Test Certificate Transport Information

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=3RT2545-1AK60

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2545-1AK60

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2545-1AK60

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

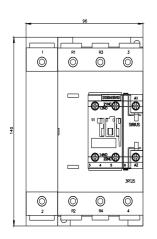
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2545-1AK60&lang=en

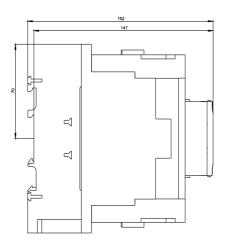
Characteristic: Tripping characteristics, I²t, Let-through current

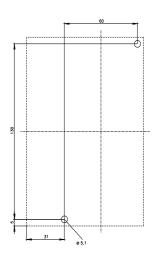
https://support.industry.siemens.com/cs/ww/en/ps/3RT2545-1AK60/char

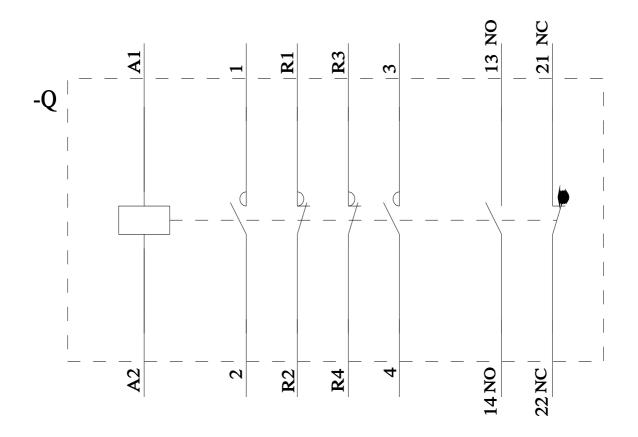
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2545-1AK60&objecttype=14&gridview=view1









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