

Contactor, AC-3, 15 kW / 400 V, 1 NO + 1 NC, 100 V AC, 50 Hz, 100 ... 110 V, 60 Hz, 3-pole, Size S0, screw terminal



product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2

General technical data	
size of contactor	S0
product extension	
<ul style="list-style-type: none"> function module for communication 	No
<ul style="list-style-type: none"> auxiliary switch 	Yes
power loss [W] for rated value of the current	
<ul style="list-style-type: none"> at AC in hot operating state 	8.1 W
<ul style="list-style-type: none"> at AC in hot operating state per pole 	2.7 W
power loss [W] for rated value of the current without load current share typical	10.5 W
surge voltage resistance	
<ul style="list-style-type: none"> of main circuit rated value 	6 kV
<ul style="list-style-type: none"> of auxiliary circuit rated value 	6 kV
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> between coil and main contacts acc. to EN 60947-1 	400 V

protection class IP	
• on the front	IP20
• of the terminal	IP20
shock resistance at rectangular impulse	
• at AC	8,3g / 5 ms, 5,3g / 10 ms
shock resistance with sine pulse	
• at AC	13,5g / 5 ms, 8,3g / 10 ms
mechanical service life (switching cycles)	
• of contactor typical	10 000 000
• of the contactor with added electronics-compatible auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
reference code acc. to DIN EN 81346-2	Q

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

Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
• at AC-3 rated value maximum	690 V
operating current	
• at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	50 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	50 A
— up to 690 V at ambient temperature 60 °C rated value	42 A
• at AC-2 at 400 V rated value	32 A
• at AC-3	
— at 400 V rated value	32 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-4 at 400 V rated value	22 A
• at AC-5a up to 690 V rated value	44 A
• at AC-5b up to 400 V rated value	26.5 A
• at AC-6a	

— up to 230 V for current peak value n=20 rated value	30.8 A
— up to 400 V for current peak value n=20 rated value	30.8 A
— up to 500 V for current peak value n=20 rated value	27 A
— up to 690 V for current peak value n=20 rated value	21 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	20.5 A
— up to 400 V for current peak value n=30 rated value	20.5 A
— up to 500 V for current peak value n=30 rated value	18 A
— up to 690 V for current peak value n=30 rated value	18 A
minimum cross-section in main circuit	
• at maximum AC-1 rated value	10 mm ²
operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	12 A
• at 690 V rated value	12 A
operating current	
• at 1 current path at DC-1	
— at 24 V rated value	35 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
operating current	

<ul style="list-style-type: none"> • at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value 	<p>20 A</p> <p>2.5 A</p> <p>1 A</p> <p>0.09 A</p> <p>0.06 A</p> <p>35 A</p> <p>15 A</p> <p>3 A</p> <p>0.27 A</p> <p>0.16 A</p> <p>35 A</p> <p>35 A</p> <p>10 A</p> <p>0.6 A</p> <p>0.6 A</p>
operating power	
<ul style="list-style-type: none"> • at AC-2 at 400 V rated value • 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 	<p>15 kW</p> <p>7.5 kW</p> <p>15 kW</p> <p>15 kW</p> <p>18.5 kW</p>
operating power for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> • at 400 V rated value • at 690 V rated value 	<p>6 kW</p> <p>10.3 kW</p>
operating apparent output at AC-6a	
<ul style="list-style-type: none"> • up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value 	<p>12.2 kV·A</p> <p>21.3 kV·A</p> <p>23.3 kV·A</p> <p>25 kV·A</p>
operating apparent output at AC-6a	
<ul style="list-style-type: none"> • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value 	<p>8.1 kV·A</p> <p>14.2 kV·A</p>

<ul style="list-style-type: none"> • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value 	<p>15.5 kV·A</p> <p>21.5 kV·A</p>
short-time withstand current in cold operating state up to 40 °C <ul style="list-style-type: none"> • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum 	<p>499 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>395 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>260 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>186 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>152 A; Use minimum cross-section acc. to AC-1 rated value</p>
no-load switching frequency <ul style="list-style-type: none"> • at AC 	<p>5 000 1/h</p>
operating frequency <ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum 	<p>1 000 1/h</p> <p>750 1/h</p> <p>750 1/h</p> <p>250 1/h</p>

Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC <ul style="list-style-type: none"> • at 50 Hz rated value • at 60 Hz rated value 	<p>100 V</p> <p>110 V</p>
operating range factor control supply voltage rated value of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	<p>0.8 ... 1.1</p> <p>0.85 ... 1.1</p>
apparent pick-up power of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	<p>81 V·A</p> <p>79 V·A</p>
inductive power factor with closing power of the coil <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	<p>0.72</p> <p>0.74</p>
apparent holding power of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	<p>10.5 V·A</p> <p>8.5 V·A</p>
inductive power factor with the holding power of the coil	

<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	<p>0.25</p> <p>0.28</p>
closing delay	
<ul style="list-style-type: none"> • at AC 	8 ... 40 ms
opening delay	
<ul style="list-style-type: none"> • at AC 	4 ... 16 ms
arcing time	10 ... 10 ms
control version of the switch operating mechanism	Standard A1 - A2

Auxiliary circuit

number of NC contacts for auxiliary contacts	
<ul style="list-style-type: none"> • instantaneous contact 	1
number of NO contacts for auxiliary contacts	
<ul style="list-style-type: none"> • instantaneous contact 	1
operating current at AC-12 maximum	10 A
operating current at AC-15	
<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 	<p>10 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p>
operating current at DC-12	
<ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	<p>10 A</p> <p>6 A</p> <p>6 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p> <p>0.15 A</p>
operating current at DC-13	
<ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	<p>10 A</p> <p>2 A</p> <p>2 A</p> <p>1 A</p> <p>0.9 A</p> <p>0.3 A</p> <p>0.1 A</p>
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings

full-load current (FLA) for three-phase AC motor	
<ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	<p>27 A</p> <p>27 A</p>
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 • for three-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 — at 575/600 V rated value 	<p>2 hp</p> <p>5 hp</p> <p>10 hp</p> <p>10 hp</p> <p>20 hp</p> <p>25 hp</p>
contact rating of auxiliary contacts according to UL	A600 / P600

Short-circuit protection

design of the fuse link	
<ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required 	<p>gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)</p> <p>gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)</p> <p>gG: 10 A (500 V, 1 kA)</p>

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
mounting type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
<ul style="list-style-type: none"> • side-by-side mounting 	Yes
height	85 mm
width	45 mm
depth	97 mm
required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — upwards 	<p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p>

- downwards
- at the side

10 mm
6 mm

Connections/ Terminals

type of electrical connection <ul style="list-style-type: none"> • for main current circuit • for auxiliary and control current circuit • at contactor for auxiliary contacts • of magnet coil 	screw-type terminals screw-type terminals Screw-type terminals Screw-type terminals
type of connectable conductor cross-sections <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — single or multi-stranded — finely stranded with core end processing • at AWG conductors for main contacts 	2x (1 ... 2.5 mm ²), 2x (2.5 ... 10 mm ²) 2x (1 ... 2,5 mm ²), 2x (2,5 ... 10 mm ²) 2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ² 2x (16 ... 12), 2x (14 ... 8)
connectable conductor cross-section for main contacts <ul style="list-style-type: none"> • solid • stranded • finely stranded with core end processing 	1 ... 10 mm ² 1 ... 10 mm ² 1 ... 10 mm ²
connectable conductor cross-section for auxiliary contacts <ul style="list-style-type: none"> • single or multi-stranded • finely stranded with core end processing 	0.5 ... 2.5 mm ² 0.5 ... 2.5 mm ²
type of connectable conductor cross-sections for auxiliary contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing 	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
type of connectable conductor cross-sections at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
AWG number as coded connectable conductor cross section <ul style="list-style-type: none"> • for main contacts • for auxiliary contacts 	16 ... 8 20 ... 14
Safety related data	
B10 value <ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 	1 000 000
proportion of dangerous failures <ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 	40 % 73 %
failure rate [FIT] <ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 	100 FIT
product function	

• mirror contact acc. to IEC 60947-4-1	Yes
T1 value for proof test interval or service life acc. to IEC 61508	20 y
protection against electrical shock	finger-safe
suitability for use safety-related switching OFF	Yes

Certificates/ approvals

General Product Approval					EMC
 CCC	 CSA	 UL	KC		 RCM

Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates		Marine / Shipping
Type Examination Certificate	 EG-Konf.	Miscellaneous	Type Test Certificates/Test Report	Special Test Certificate  ABS

Marine / Shipping					other
 BUREAU VERITAS	 LRS	 RINA	 RMRS	 TYPE APPROVED PRODUCT DNV-GL DNVGL.COM/AF	Confirmation

other
 VDE

Further information

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=3RT2027-1AG60>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-1AG60>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-1AG60>

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

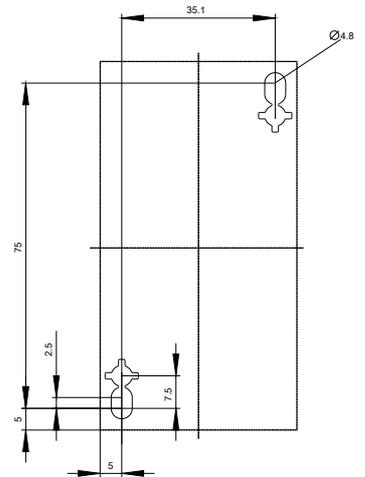
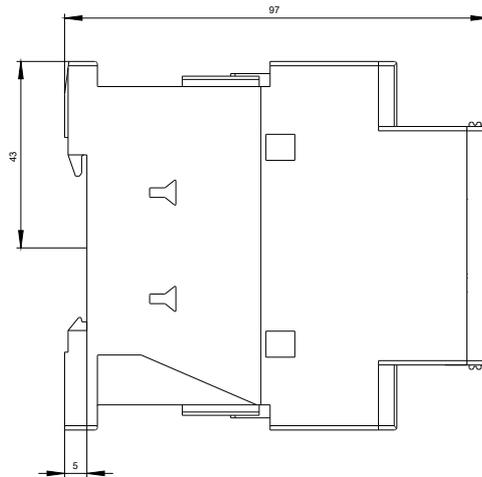
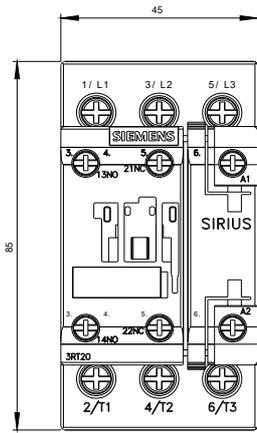
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-1AG60&lang=en

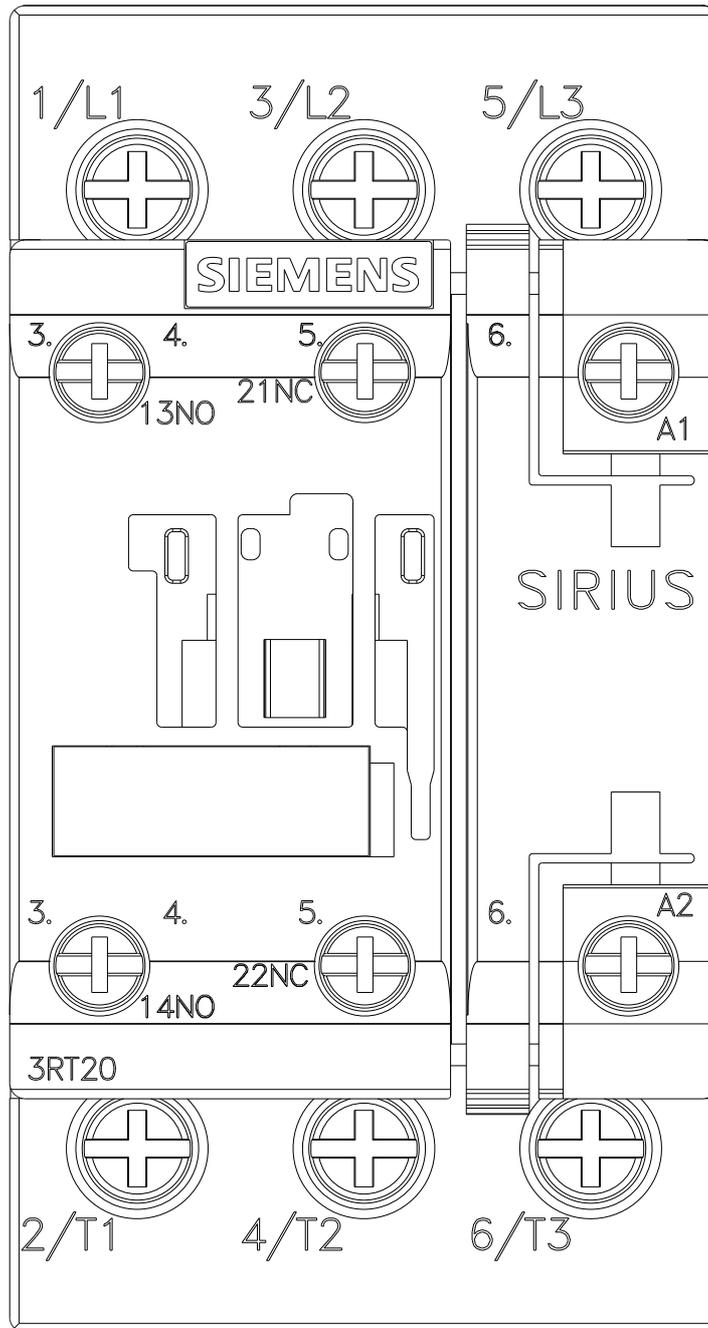
Characteristic: Tripping characteristics, I^t, Let-through current

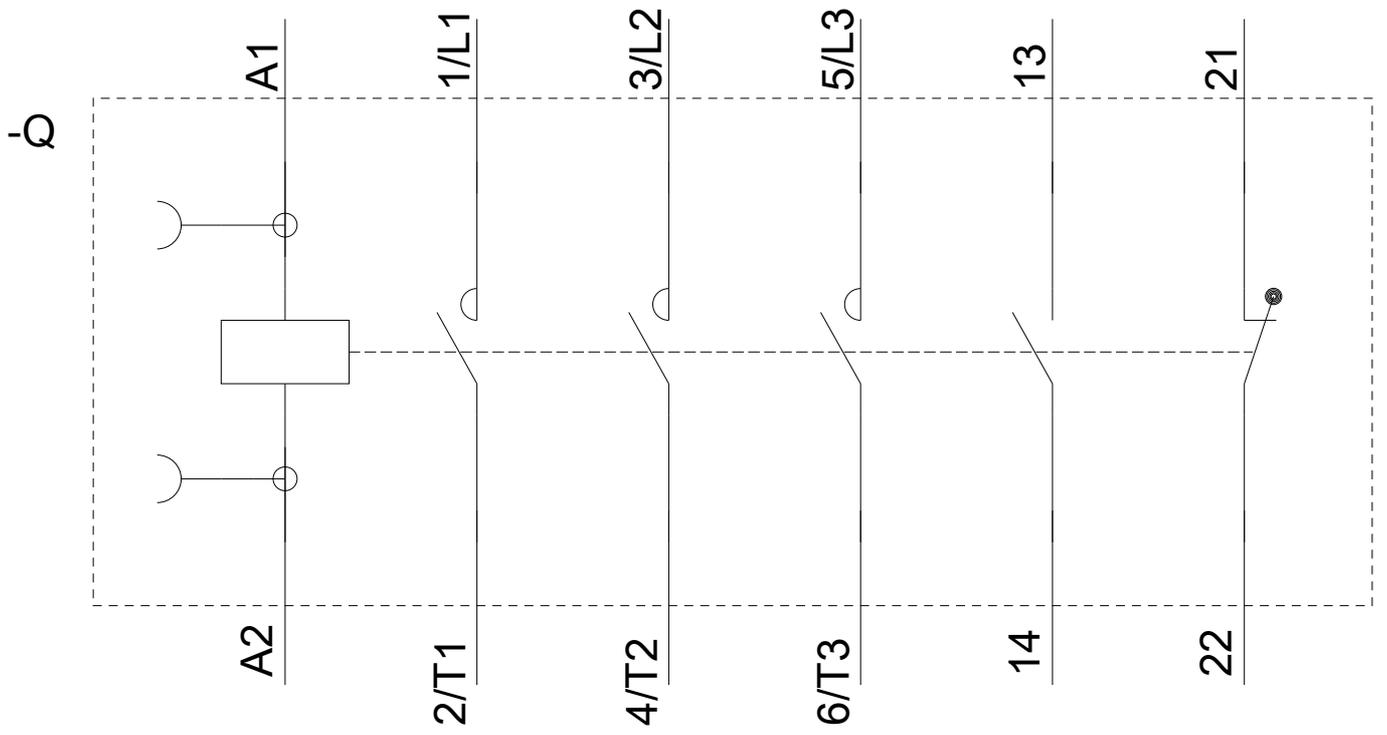
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-1AG60/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2027-1AG60&objecttype=14&gridview=view1>







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