

Power contactor, AC-3 40 A, 18.5 kW / 400 V 2 NO + 2 NC 20-33 V
AC/DC 4-pole size S2 screw terminals 1 NO + 1 NC integrated



Product brand name	SIRIUS
Product designation	contactor
Product type designation	3RT25
General technical data	
Size of contactor	S2
Product extension	
• function module for communication	No
• Auxiliary switch	Yes
Insulation voltage	
• of main circuit with degree of pollution 3 rated value	690 V
• of auxiliary circuit with degree of pollution 3 rated value	690 V
Surge voltage resistance	
• of main circuit rated value	6 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation	
• between coil and main contacts acc. to EN 60947-1	400 V

Protection class IP	
• on the front	IP20
• of the terminal	IP00
Shock resistance at rectangular impulse	
• at AC	7.7g / 5 ms, 4.5g / 10 ms
• at DC	7.7g / 5 ms, 4.5g / 10 ms
Shock resistance with sine pulse	
• at AC	12g / 5 ms, 7g / 10 ms
• at DC	12g / 5 ms, 7g / 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	-40 ... +70 °C
• during storage	-55 ... +80 °C

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
Operating current	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	60 A
— up to 690 V at ambient temperature 60 °C rated value	55 A
• at AC-2 at AC-3 at 400 V	
— per NO contact rated value	35 A
— per NC contact rated value	35 A
Minimum cross-section in main circuit	
• at maximum AC-1 rated value	16 mm ²
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	55 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A

<ul style="list-style-type: none"> — at 440 V rated value • with 2 current paths in series at DC-1 <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 	<p>0.4 A</p> <p>55 A</p> <p>45 A</p> <p>5 A</p> <p>1 A</p>
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 per NC contact rated value — at 24 V per NO contact rated value — at 110 V per NC contact rated value — at 110 V per NO contact rated value — at 220 V per NC contact rated value — at 220 V per NO contact rated value — at 440 V per NC contact rated value — at 440 V per NO contact rated value • with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V per NC contact rated value — at 24 V per NO contact rated value — at 110 V per NC contact rated value — at 110 V per NO contact rated value — at 220 V per NC contact rated value — at 220 V per NO contact rated value — at 440 V per NC contact rated value — at 440 V per NO contact rated value 	<p>35 A</p> <p>35 A</p> <p>1.25 A</p> <p>2.5 A</p> <p>0.5 A</p> <p>1 A</p> <p>0.045 A</p> <p>0.1 A</p> <p>55 A</p> <p>55 A</p> <p>12.5 A</p> <p>25 A</p> <p>2.5 A</p> <p>5 A</p> <p>0.135 A</p> <p>0.27 A</p>
Operating power	
<ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value • at AC-2 at AC-3 <ul style="list-style-type: none"> — at 230 V per NC contact rated value — at 230 V per NO contact rated value — at 400 V per NC contact rated value — at 400 V per NO contact rated value 	<p>23 kW</p> <p>39 kW</p> <p>11 kW</p> <p>11 kW</p> <p>18.5 kW</p> <p>18.5 kW</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 	<p>546 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>443 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>334 A; Use minimum cross-section acc. to AC-1 rated value</p>

<ul style="list-style-type: none"> • limited to 30 s switching at zero current maximum 	241 A; Use minimum cross-section acc. to AC-1 rated value
<ul style="list-style-type: none"> • limited to 60 s switching at zero current maximum 	196 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 operating current per conductor	4 W
No-load switching frequency	
<ul style="list-style-type: none"> • at AC 	500 1/h
<ul style="list-style-type: none"> • at DC 	500 1/h
Operating frequency	
<ul style="list-style-type: none"> • at AC-1 maximum 	350 1/h

Control circuit/ Control

Type of voltage of the control supply voltage	AC/DC
Control supply voltage at AC	
<ul style="list-style-type: none"> • at 50 Hz rated value 	20 ... 33 V
<ul style="list-style-type: none"> • at 60 Hz rated value 	20 ... 33 V
Control supply voltage at DC	
<ul style="list-style-type: none"> • rated value 	20 ... 33 V
Operating range factor control supply voltage rated value of magnet coil at DC	
<ul style="list-style-type: none"> • initial value 	0.8
<ul style="list-style-type: none"> • Full-scale value 	1.1
Operating range factor control supply voltage rated value of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz 	0.8 ... 1.1
<ul style="list-style-type: none"> • at 60 Hz 	0.8 ... 1.1
Design of the surge suppressor	with varistor
Apparent pick-up power of magnet coil at AC	110 V·A
<ul style="list-style-type: none"> • at 50 Hz 	110 V·A
<ul style="list-style-type: none"> • at 60 Hz 	110 V·A
Inductive power factor with closing power of the coil	0.72
<ul style="list-style-type: none"> • at 50 Hz 	0.95
<ul style="list-style-type: none"> • at 60 Hz 	0.95
Apparent holding power of magnet coil at AC	2.5 V·A
<ul style="list-style-type: none"> • at 50 Hz 	2.5 V·A
<ul style="list-style-type: none"> • at 60 Hz 	2.5 V·A
Inductive power factor with the holding power of the coil	0.95
<ul style="list-style-type: none"> • at 50 Hz 	0.95
<ul style="list-style-type: none"> • at 60 Hz 	0.95
Closing power of magnet coil at DC	70 W
Holding power of magnet coil at DC	1.5 W
Closing delay	

<ul style="list-style-type: none"> • at AC • at DC 	<p>30 ... 70 ms</p> <p>30 ... 70 ms</p>
Opening delay	
<ul style="list-style-type: none"> • at AC • at DC 	<p>30 ... 55 ms</p> <p>30 ... 55 ms</p>
Arcing time	10 ... 20 ms
Control version of the switch operating mechanism	UC
Residual current of the electronics for control with signal <0>	
<ul style="list-style-type: none"> • at AC at 230 V maximum permissible • at DC at 24 V maximum permissible 	<p>20 A</p> <p>20 A</p>

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>6 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

Contact rating of auxiliary contacts according to UL	A600 / P600
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Short-circuit protection

Design of the fuse link

- for short-circuit protection of the main circuit
 - with type of coordination 1 required
 - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gG: 125 A (690 V, 100 kA)

gG: 63A (690V, 100kA)

fuse gG: 10 A

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 50022

- Side-by-side mounting

Yes

Height

114 mm

Width

75 mm

Depth

130 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

50 mm

— at the side

10 mm

— downwards

50 mm

- for live parts

— forwards

0 mm

— Backwards

0 mm

— upwards

50 mm

— downwards

50 mm

— at the side

10 mm

Connections/ Terminals

Type of electrical connection

- for main current circuit
- for auxiliary and control current circuit

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 	<p>2x (1 ... 35 mm²), 1x (1 ... 50 mm²)</p> <p>2x (1 ... 35 mm²), 1x (1 ... 50 mm²)</p> <p>2x (1 ... 25 mm²), 1x (1 ... 35 mm²)</p> <p>2x (18 ... 2), 1x (18 ... 1)</p>
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> for auxiliary contacts <ul style="list-style-type: none"> — solid — single or multi-stranded — finely stranded with core end processing at AWG conductors for auxiliary contacts 	<p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²)</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (20 ... 16), 2x (18 ... 14)</p>
AWG number as coded connectable conductor cross section for main contacts	18 ... 1

Safety related data	
Product function	
<ul style="list-style-type: none"> Mirror contact acc. to IEC 60947-4-1 positively driven operation acc. to IEC 60947-5-1 	<p>Yes</p> <p>No</p>
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529

Certificates/ approvals

General Product Approval	EMC	Functional Safety/Safety of Machinery
 CCC	 EAC	 RCM
 UL		Type Examination Certificate
 CSA		

Declaration of Conformity	Test Certificates	Marine / Shipping
 EG-Konf.	Miscellaneous Type Test Certificates/Test Report Special Test Certificate	 ABS
		 BUREAU VERITAS

Marine / Shipping	other
 LRS	Confirmation
 PRS	
 RINA	
 RMRS	
 DNV-GL DNVGL.COM/AF	

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

www.siemens.com/ic10

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2535-1NB30>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2535-1NB30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2535-1NB30>

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

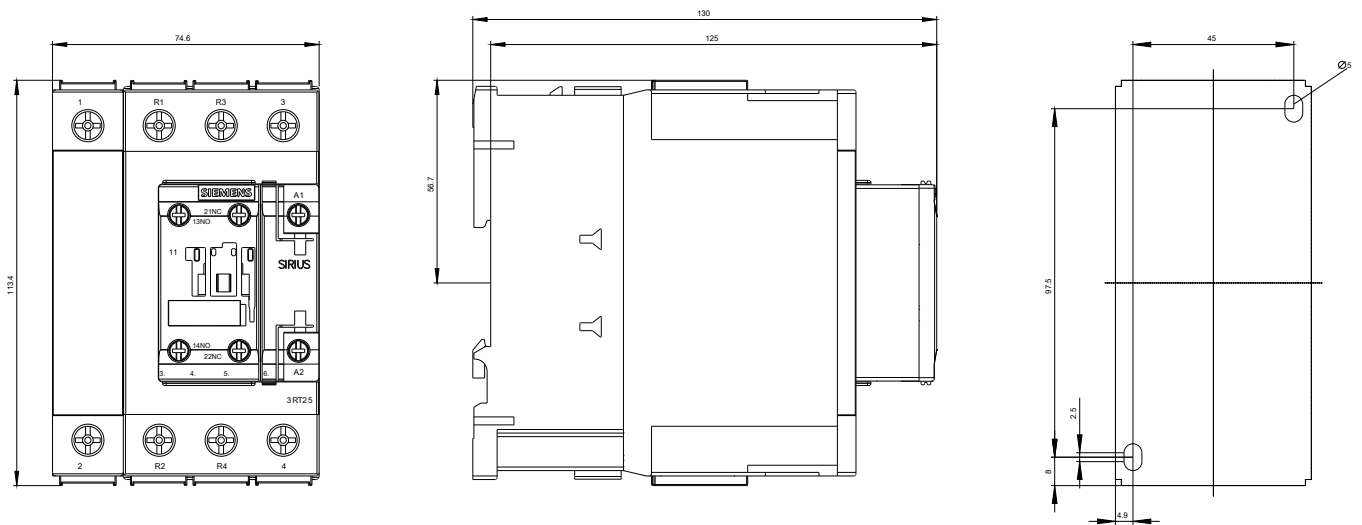
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2535-1NB30&lang=en

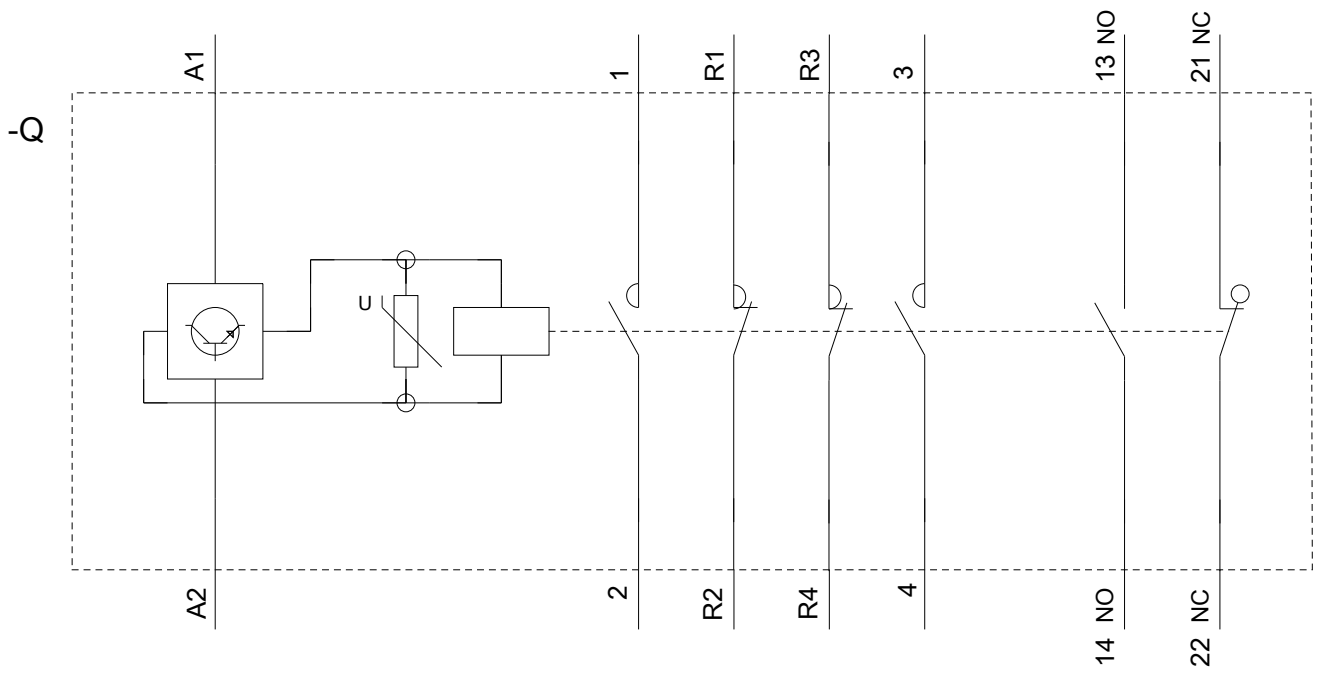
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2535-1NB30/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2535-1NB30&objectype=14&gridview=view1>





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