



power contactor, AC-3, 80 A, 37 kW / 400 V, 4-pole, 48-80 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	5.3 W
• without load current share typical	3 W
type of calculation of power loss current-dependent	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, 4 g / 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 Prohibittance (day/month/year)	09/01/2017
SVHC substance name	Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1
Net Weight	2.13 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 value	50 mm ²
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	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 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
— 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	22 kW
• at 230 V per NO contact rated value	22 kW
• at 400 V per NC contact rated value	37 kW
• at 400 V per NO contact rated value	37 kW
short-time withstand current in cold operating state up to 40 °C	
• limited to 1 s switching at zero current maximum	1 080 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 5 s switching at zero current maximum	1 080 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 10 s switching at zero current maximum	851 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	538 A; Use minimum cross-section acc. to AC-1 rated value

limited 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	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	48 ... 80 V
at 60 Hz rated value	48 ... 80 V
control supply voltage at DC rated value	48 ... 80 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	65 A
duration of inrush current peak	5 µs
pickup current mean value	0.44 A
pickup current peak	1.2 A
duration of pickup current	150 ms
holding current mean value	10 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	
at AC	50 ... 70 ms
at DC	50 ... 70 ms
opening delay	
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 • at 500 V rated value • at 690 V rated value	3 A 2 A 1 A
operational current at DC-12 • 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	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at DC-13 • 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	10 A 2 A 2 A 1 A 0.9 A 0.3 A 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
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 type of coordination 1 required — with type of coordination 2 required • for short-circuit protection of the auxiliary switch required	gG: 250 A (690 V, 100 kA) gR: 250 A (690 V, 100 kA) gG: 10 A (690 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 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 — backwards — upwards — downwards — at the side • for grounded parts — forwards — backwards — upwards — at the side — downwards • for live parts — forwards — backwards — upwards — downwards — at the side	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 10 mm 10 mm 10 mm 0 mm 0 mm 10 mm 10 mm 10 mm

Connections/ Terminals	
type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil	screw-type terminals screw-type terminals Screw-type terminals screw terminal
type of connectable conductor cross-sections • for main contacts — solid — stranded — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts	2x (2.5 ... 16 mm ²) 2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2.5 ... 16 mm ²); [2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²)] 2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²) 2x (10 ... 1/0), 1x (10 ... 2/0)
type of connectable conductor cross-sections • for auxiliary contacts — solid — solid or stranded — finely stranded with core end processing • for AWG cables for auxiliary contacts	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) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
AWG number extended as coded connectable conductor cross section for main contacts	10 ... 2/0
AWG number as coded connectable conductor cross section for auxiliary contacts	20 ... 14

Safety related data

product function • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1	Yes No
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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

Environment	General Product Approval	EMV
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[Environmental Conformations](#)



Test Certificates

Special Test Certificate 	Type Test Certificates/Test Report 		
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Maritime application

	Confirmation 	Special Test Certificate
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Further information

Information on the packaging
<https://support.industry.siemens.com/cs/ww/en/view/109813875>
Information for data generation and storage
<https://support.industry.siemens.com/cs/ww/en/view/109995012>
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=3RT2545-1NE30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2545-1NE30>

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

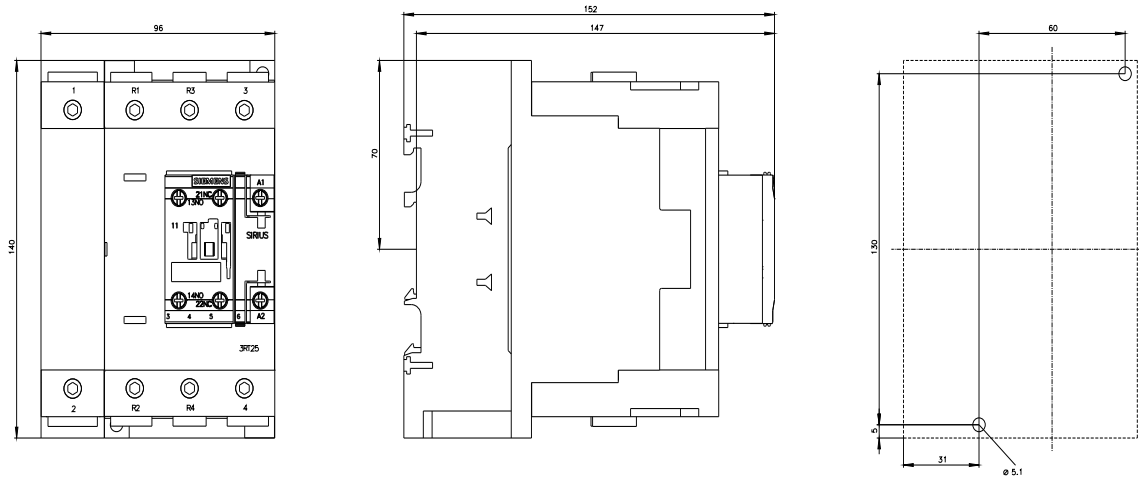
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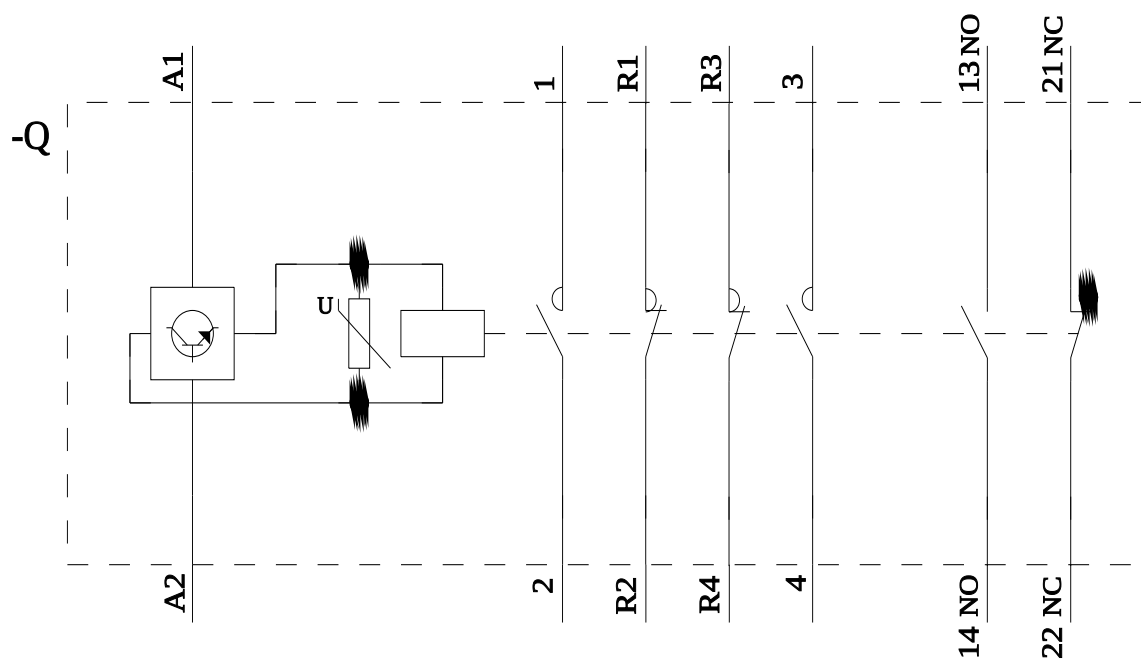
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Characteristic curves

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