



power contactor, AC-3, 41 A, 22 kW / 400 V, 4-pole, 48 V AC, 50/60 Hz, main contacts: 2 NO + 2 NC, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S2

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
power loss [W] for rated value of the current	
• at AC in hot operating state per pole	4 W
• without load current share typical	6.5 W
type of calculation of power loss current-dependent	quadratic
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 protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	11.8 g / 5 ms, 7.4 g / 10 ms
shock resistance with sine pulse	
• at AC	18.5 g / 5 ms, 11.6 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 (day/month/year)	10/01/2014
Net Weight	1.137 kg
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
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	
<ul style="list-style-type: none"> ● at AC-1 up to 690 V <ul style="list-style-type: none"> — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value ● at AC-2 at AC-3 at 400 V <ul style="list-style-type: none"> — per NO contact rated value — per NC contact rated value 	70 A 60 A 41 A 41 A
minimum cross-section in main circuit at maximum AC-1 rated value	25 mm ²
operational current	
<ul style="list-style-type: none"> ● at 1 current path 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 ● 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 ● 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 	60 A 4.5 A 1 A 0.4 A 55 A 45 A 5 A 1 A 35 A 35 A 1.25 A 2.5 A 0.5 A 1 A 0.045 A 0.1 A 55 A 55 A 12.5 A 25 A 2.5 A 5 A 0.135 A 0.27 A
operating power 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 	15 kW 15 kW 22 kW 22 kW
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 	546 A; Use minimum cross-section acc. to AC-1 rated value 443 A; Use minimum cross-section acc. to AC-1 rated value 334 A; Use minimum cross-section acc. to AC-1 rated value 241 A; Use minimum cross-section acc. to AC-1 rated value 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 operational current per conductor	4 W
power loss [W] at AC-3e at 400 V for rated value of the operational current per conductor	4 W
no-load switching frequency	
<ul style="list-style-type: none"> ● at AC 	5 000 1/h

operating frequency	
<ul style="list-style-type: none"> at AC-1 maximum 	1 000 1/h
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 	48 V
<ul style="list-style-type: none"> at 60 Hz rated value 	48 V
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 	0.85 ... 1.1
apparent pick-up power of magnet coil at AC	210 VA
<ul style="list-style-type: none"> at 50 Hz 	210 VA
<ul style="list-style-type: none"> at 60 Hz 	188 VA
inductive power factor with closing power of the coil	0.69
<ul style="list-style-type: none"> at 50 Hz 	0.69
<ul style="list-style-type: none"> at 60 Hz 	0.65
apparent holding power of magnet coil at AC	17.2 VA
<ul style="list-style-type: none"> at 50 Hz 	17.2 VA
<ul style="list-style-type: none"> at 60 Hz 	16.5 VA
inductive power factor with the holding power of the coil	0.36
<ul style="list-style-type: none"> at 50 Hz 	0.36
<ul style="list-style-type: none"> at 60 Hz 	0.39
closing delay	
<ul style="list-style-type: none"> at AC 	10 ... 80 ms
opening delay	
<ul style="list-style-type: none"> at AC 	10 ... 18 ms
arcing time	10 ... 20 ms
control version of the switch operating mechanism	AC
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	
<ul style="list-style-type: none"> at 230 V rated value 	10 A
<ul style="list-style-type: none"> at 400 V rated value 	3 A
<ul style="list-style-type: none"> at 500 V rated value 	2 A
<ul style="list-style-type: none"> at 690 V rated value 	1 A
operational current at DC-12	
<ul style="list-style-type: none"> at 24 V rated value 	10 A
<ul style="list-style-type: none"> at 48 V rated value 	6 A
<ul style="list-style-type: none"> at 60 V rated value 	6 A
<ul style="list-style-type: none"> at 110 V rated value 	3 A
<ul style="list-style-type: none"> at 125 V rated value 	2 A
<ul style="list-style-type: none"> at 220 V rated value 	1 A
<ul style="list-style-type: none"> at 600 V rated value 	0.15 A
operational current at DC-13	
<ul style="list-style-type: none"> at 24 V rated value 	10 A
<ul style="list-style-type: none"> at 48 V rated value 	2 A
<ul style="list-style-type: none"> at 60 V rated value 	2 A
<ul style="list-style-type: none"> at 110 V rated value 	1 A
<ul style="list-style-type: none"> at 125 V rated value 	0.9 A
<ul style="list-style-type: none"> at 220 V rated value 	0.3 A
<ul style="list-style-type: none"> 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]	
<ul style="list-style-type: none"> 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	
<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 coordination 2 required • for short-circuit protection of the auxiliary switch required 	gG: 160 A (690 V, 100 kA) gG: 80 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 50022
height	114 mm
width	75 mm
depth	130 mm
required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — backwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side 	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 50 mm 10 mm 50 mm 0 mm 0 mm 50 mm 50 mm 10 mm
Connections/ Terminals	
type of electrical connection	
<ul style="list-style-type: none"> • 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-type terminals
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts 	2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²) 2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²) 2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²) 2x (18 ... 2), 1x (18 ... 1)
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — 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 as coded connectable conductor cross section for main contacts	18 ... 1
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

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

[Environmental Conformations](#)



General Product Approval

EMV

Test Certificates

Maritime application



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application

other



[Confirmation](#)

other

Railway

Dangerous goods



[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=3RT2536-1AH20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2536-1AH20>

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

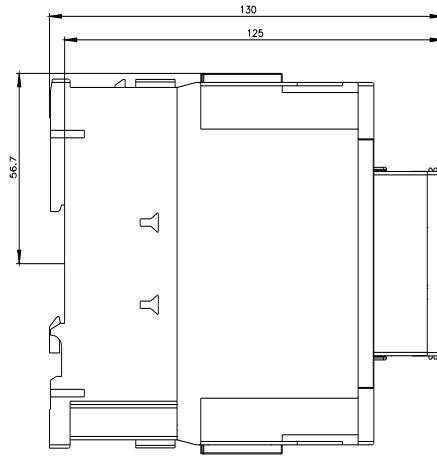
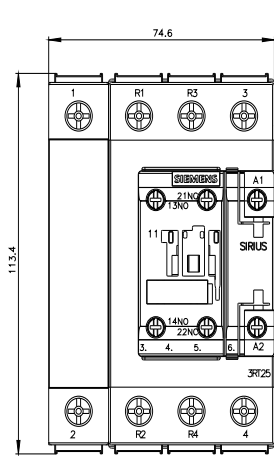
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Characteristic curves

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