

Vacuum contactor, AC-3 225 A, 110 kW / 400 V AC (50-60 Hz) / DC operation 220-240 V UC, Auxiliary contacts 2 NO + 2 NC, 3-pole, Size S10, busbar connections Drive: conventional



Product brand name	SIRIUS
Product designation	Vacuum contactor
Product type designation	3RT12
General technical data	
Size of contactor	S10
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	27 W
• at AC in hot operating state per pole	9 W
Power loss [W] for rated value of the current without load current share typical	8.2 W
Surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation	
• between coil and main contacts acc. to EN 60947-1	690 V

Protection class IP	IP00; IP20 on the front with cover / box terminal IP00
<ul style="list-style-type: none"> • on the front • of the terminal 	
Shock resistance at rectangular impulse	8,5g / 5 ms, 4,2g / 10 ms
<ul style="list-style-type: none"> • at AC • at DC 	8,5g / 5 ms, 4,2g / 10 ms
Shock resistance with sine pulse	13,4g / 5 ms, 6,5g / 10 ms
<ul style="list-style-type: none"> • at AC • at DC 	13,4g / 5 ms, 6,5g / 10 ms
Mechanical service life (switching cycles)	
<ul style="list-style-type: none"> • of contactor typical 	10 000 000
<ul style="list-style-type: none"> • of the contactor with added electronics-compatible auxiliary switch block typical 	5 000 000
<ul style="list-style-type: none"> • of the contactor with added auxiliary switch block typical 	10 000 000
Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	K
Reference code acc. to DIN EN 81346-2	Q

Ambient conditions

Installation altitude at height above sea level	2 000 m
<ul style="list-style-type: none"> • maximum 	
Ambient temperature	-25 ... +60 °C
<ul style="list-style-type: none"> • during operation • 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	1 000 V
<ul style="list-style-type: none"> • at AC-3 rated value maximum 	
Operating current	
<ul style="list-style-type: none"> • at AC-1 at 400 V <ul style="list-style-type: none"> — at ambient temperature 40 °C rated value • at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value — up to 690 V at ambient temperature 60 °C rated value — up to 1000 V at ambient temperature 40 °C rated value — up to 1000 V at ambient temperature 60 °C rated value • at AC-2 at 400 V rated value 	330 A 330 A 300 A 330 A 300 A 225 A

<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 1000 V rated value • at AC-4 at 400 V rated value • 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 • 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 — 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>225 A</p> <p>225 A</p> <p>225 A</p> <p>225 A</p> <p>195 A</p> <p>278 A</p> <p>278 A</p> <p>278 A</p> <p>278 A</p> <p>185 A</p> <p>185 A</p> <p>185 A</p> <p>185 A</p>
<p>Minimum cross-section in main circuit</p> <ul style="list-style-type: none"> • at maximum AC-1 rated value 	<p>185 mm²</p>
<p>Operating current for approx. 200000 operating cycles at AC-4</p> <ul style="list-style-type: none"> • at 400 V rated value • at 690 V rated value 	<p>97 A</p> <p>68 A</p>
<p>Operating power</p> <ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — at 230 V at 60 °C rated value — at 400 V rated value — at 400 V at 60 °C rated value — at 690 V rated value — at 690 V at 60 °C rated value — at 1000 V at 60 °C rated value • 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 	<p>113 kW</p> <p>197 kW</p> <p>300 kW</p> <p>340 kW</p> <p>340 kW</p> <p>492 kW</p> <p>110 kW</p> <p>55 kW</p> <p>110 kW</p> <p>160 kW</p>

— at 690 V rated value	200 kW
— at 1000 V rated value	315 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	55 kW
• at 690 V rated value	94 kW
Operating apparent output at AC-6a	
• up to 230 V for current peak value n=20 rated value	111 000 V·A
• up to 400 V for current peak value n=20 rated value	193 000 V·A
• up to 500 V for current peak value n=20 rated value	241 000 V·A
• up to 690 V for current peak value n=20 rated value	332 000 V·A
• up to 1000 V for current peak value n=20 rated value	482 000 V·A
Operating apparent output at AC-6a	
• up to 230 V for current peak value n=30 rated value	74 000 V·A
• up to 400 V for current peak value n=30 rated value	128 000 V·A
• up to 500 V for current peak value n=30 rated value	160 000 V·A
• up to 690 V for current peak value n=30 rated value	221 000 V·A
• up to 1000 V for current peak value n=30 rated value	320 000 V·A
No-load switching frequency	
• at AC	2 000 1/h
• at DC	2 000 1/h
Operating frequency	
• at AC-1 maximum	800 1/h
• at AC-2 maximum	300 1/h
• at AC-3 maximum	750 1/h
• at AC-4 maximum	250 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	220 ... 240 V
• at 60 Hz rated value	220 ... 240 V
Control supply voltage at DC	
• rated value	220 ... 240 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
Apparent pick-up power of magnet coil at AC	
• at 50 Hz	590 V·A
Inductive power factor with closing power of the coil	
• at 50 Hz	0.9
Apparent holding power of magnet coil at AC	
• at 50 Hz	6.1 V·A
Inductive power factor with the holding power of the coil	
• at 50 Hz	0.9
Closing power of magnet coil at DC	700 W
Holding power of magnet coil at DC	8.2 W
Closing delay	
• at AC	30 ... 95 ms
• at DC	30 ... 95 ms
Opening delay	
• at AC	40 ... 80 ms
• at DC	40 ... 80 ms
Arcing time	10 ... 15 ms
Control version of the switch operating mechanism	Standard A1 - A2

Auxiliary circuit

Number of NC contacts for auxiliary contacts	
• instantaneous contact	2
Number of NO contacts for auxiliary contacts	
• instantaneous contact	2
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
• at 230 V rated value	6 A
• at 400 V rated value	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A
Operating current at DC-12	
• at 24 V rated value	10 A
• at 48 V rated value	6 A

<ul style="list-style-type: none"> • 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 	6 A 3 A 2 A 1 A 0.15 A
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 	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

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 	180 A 192 A
Yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • 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 	60 hp 75 hp 150 hp 200 hp
Contact rating of auxiliary contacts according to UL	A600 / Q600

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 	gG: 500 A (690 V, 100 kA) gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA) gG: 10 A (500 V, 1 kA)

Installation/ mounting/ dimensions

Mounting position	+/-22,5° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface; standing, on horizontal mounting surface
Mounting type	screw fixing
<ul style="list-style-type: none"> • Side-by-side mounting 	Yes
Height	210 mm
Width	145 mm

Depth	206 mm
Required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 0 mm • for grounded parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — at the side 10 mm — downwards 10 mm • for live parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 10 mm 	

Connections/ Terminals	
Width of connection bar	25 mm
Thickness of connection bar	6 mm
Diameter of holes	11 mm
Number of holes	1
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 	Connection bar screw-type terminals Screw-type terminals Screw-type terminals
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • at AWG conductors for main contacts 	2/0 ... 500 kcmil
Connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> • stranded 	70 ... 240 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 ... 4 mm ² 0.5 ... 2.5 mm ²
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 	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²) 2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²), max. 2x (0,75 ... 4 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14), 1x 12

AWG number as coded connectable conductor cross section	18 ... 14
<ul style="list-style-type: none"> for auxiliary contacts 	

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 	Yes No
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
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[Type Examination Certificate](#)

Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping	other	Railway
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[Confirmation](#)

[Miscellaneous](#)

[Special Test Certificate](#)

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=3RT1264-6AP36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1264-6AP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1264-6AP36>

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

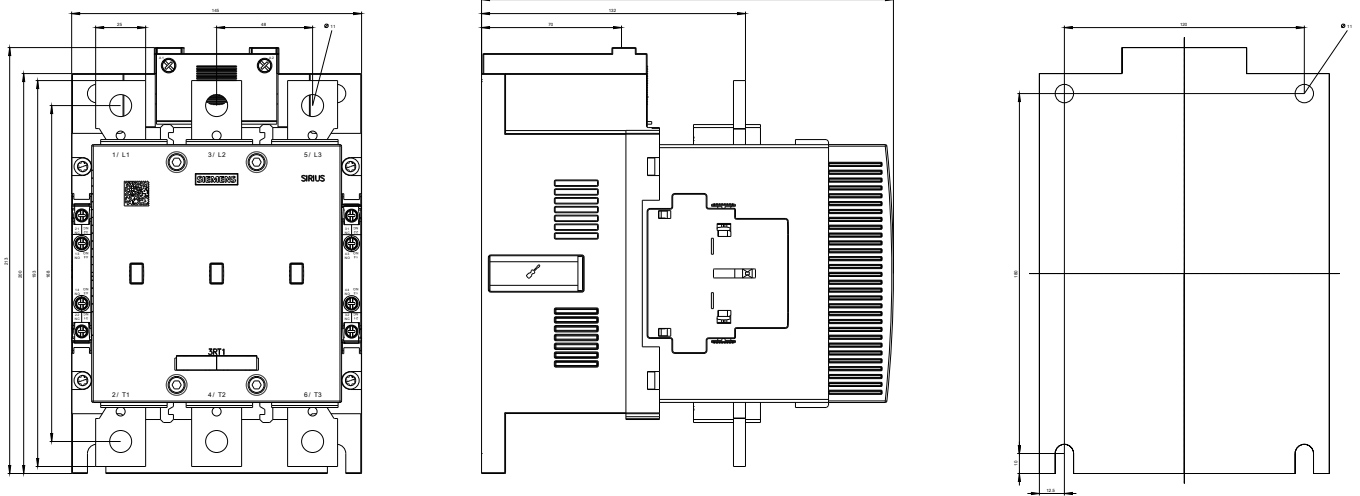
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1264-6AP36&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1264-6AP36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1264-6AP36&objecttype=14&gridview=view1>





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