



power contactor, AC-3, 41 A, 22 kW / 400 V, 4-pole, 175-280 V AC/DC, 50/60 Hz, with integrated varistor, 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
<b>General technical data</b>	
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	2.4 W
type of calculation of power loss depending on pole	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	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 (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 Prohibitation (Date)	10/01/2014
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
Weight	1.18 kg
<b>Ambient conditions</b>	
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 %
<b>Main circuit</b>	
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"> <li>at AC-1 up to 690 V <ul style="list-style-type: none"> <li>at ambient temperature 40 °C rated value</li> <li>at ambient temperature 60 °C rated value</li> </ul> </li> <li>at AC-2 at AC-3 at 400 V <ul style="list-style-type: none"> <li>per NO contact rated value</li> <li>per NC contact rated value</li> </ul> </li> </ul>	70 A 60 A 41 A 41 A
minimum cross-section in main circuit at maximum AC-1 rated value	25 mm <sup>2</sup>
operational current <ul style="list-style-type: none"> <li>at 1 current path at DC-1 <ul style="list-style-type: none"> <li>at 24 V rated value</li> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> </ul> </li> <li>with 2 current paths in series at DC-1 <ul style="list-style-type: none"> <li>at 24 V rated value</li> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> </ul> </li> <li>at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> <li>at 24 V per NC contact rated value</li> <li>at 24 V per NO contact rated value</li> <li>at 110 V per NC contact rated value</li> <li>at 110 V per NO contact rated value</li> <li>at 220 V per NC contact rated value</li> <li>at 220 V per NO contact rated value</li> <li>at 440 V per NC contact rated value</li> <li>at 440 V per NO contact rated value</li> </ul> </li> <li>with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> <li>at 24 V per NC contact rated value</li> <li>at 24 V per NO contact rated value</li> <li>at 110 V per NC contact rated value</li> <li>at 110 V per NO contact rated value</li> <li>at 220 V per NC contact rated value</li> <li>at 220 V per NO contact rated value</li> <li>at 440 V per NC contact rated value</li> <li>at 440 V per NO contact rated value</li> </ul> </li> </ul>	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"> <li>at 230 V per NC contact rated value</li> <li>at 230 V per NO contact rated value</li> <li>at 400 V per NC contact rated value</li> <li>at 400 V per NO contact rated value</li> </ul>	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"> <li>limited to 1 s switching at zero current maximum</li> <li>limited to 5 s switching at zero current maximum</li> <li>limited to 10 s switching at zero current maximum</li> <li>limited to 30 s switching at zero current maximum</li> <li>limited to 60 s switching at zero current maximum</li> </ul>	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"> <li>• at AC</li> </ul>	500 1/h
<ul style="list-style-type: none"> <li>• at DC</li> </ul>	500 1/h
<b>operating frequency</b>	
<ul style="list-style-type: none"> <li>• at AC-1 maximum</li> </ul>	350 1/h
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC/DC
<b>control supply voltage at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>	175 ... 280 V
<ul style="list-style-type: none"> <li>• at 60 Hz rated value</li> </ul>	175 ... 280 V
<b>control supply voltage at DC rated value</b>	175 ... 280 V
<b>operating range factor control supply voltage rated value of magnet coil at DC</b>	
<ul style="list-style-type: none"> <li>• initial value</li> </ul>	0.8
<ul style="list-style-type: none"> <li>• full-scale value</li> </ul>	1.1
<b>operating range factor control supply voltage rated value of magnet coil at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	0.8 ... 1.1
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	0.8 ... 1.1
<b>design of the surge suppressor</b>	with varistor
<b>inrush current peak</b>	25 A
<b>duration of inrush current peak</b>	10 µs
<b>locked-rotor current mean value</b>	0.58 A
<b>locked-rotor current peak</b>	1.5 A
<b>duration of locked-rotor current</b>	230 ms
<b>holding current mean value</b>	10 mA
<b>apparent pick-up power of magnet coil at AC</b>	110 VA
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	110 VA
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	110 VA
<b>inductive power factor with closing power of the coil</b>	0.95
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	0.95
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	0.95
<b>apparent holding power of magnet coil at AC</b>	2.5 VA
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	2.5 VA
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	2.5 VA
<b>inductive power factor with the holding power of the coil</b>	0.95
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	0.95
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	0.95
<b>closing power of magnet coil at DC</b>	70 W
<b>holding power of magnet coil at DC</b>	1.5 W
<b>closing delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	30 ... 110 ms
<ul style="list-style-type: none"> <li>• at DC</li> </ul>	30 ... 110 ms
<b>opening delay</b>	
<ul style="list-style-type: none"> <li>• at AC</li> </ul>	30 ... 55 ms
<ul style="list-style-type: none"> <li>• at DC</li> </ul>	30 ... 55 ms
<b>arcing time</b>	10 ... 20 ms
<b>control version of the switch operating mechanism</b>	UC
<b>residual current of the electronics for control with signal &lt;0&gt;</b>	
<ul style="list-style-type: none"> <li>• at AC at 230 V maximum permissible</li> </ul>	20 A
<ul style="list-style-type: none"> <li>• at DC at 24 V maximum permissible</li> </ul>	20 A
<b>Auxiliary circuit</b>	
<b>number of NC contacts for auxiliary contacts instantaneous contact</b>	1
<b>number of NO contacts for auxiliary contacts instantaneous contact</b>	1
<b>operational current at AC-12 maximum</b>	10 A
<b>operational current at AC-15</b>	
<ul style="list-style-type: none"> <li>• at 230 V rated value</li> </ul>	6 A
<ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>	3 A
<ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>	1 A

<b>operational current at DC-12</b>	
• at 24 V rated value	10 A
• at 48 V rated value	6 A
• at 60 V rated value	6 A
• at 110 V rated value	3 A
• at 125 V rated value	2 A
• at 220 V rated value	1 A
• at 600 V rated value	0.15 A
<b>operational current at DC-13</b>	
• at 24 V rated value	10 A
• at 48 V rated value	2 A
• at 60 V rated value	2 A
• at 110 V rated value	1 A
• at 125 V rated value	0.9 A
• at 220 V rated value	0.3 A
• at 600 V rated value	0.1 A
<b>contact reliability of auxiliary contacts</b>	1 faulty switching per 100 million (17 V, 1 mA)
<b>UL/CSA ratings</b>	
<b>yielded mechanical performance [hp]</b>	
• for 3-phase AC motor at 460/480 V rated value	25 hp
<b>contact rating of auxiliary contacts according to UL</b>	A600 / P600
<b>Short-circuit protection</b>	
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
<b>design of the fuse link</b>	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 160 A (690 V, 100 kA)
— with type of coordination 2 required	gG: 80 A (690 V, 100 kA)
• for short-circuit protection of the auxiliary switch required	gG: 10 A (690 V, 1 kA)
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	+/-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
<b>fastening method</b>	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 50022
<b>height</b>	114 mm
<b>width</b>	75 mm
<b>depth</b>	130 mm
<b>required spacing</b>	
• 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
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
• for main current circuit	screw-type terminals
• for auxiliary and control circuit	screw-type terminals
• at contactor for auxiliary contacts	Screw-type terminals

• of magnet coil	Screw-type terminals
<b>type of connectable conductor cross-sections</b>	
• for main contacts	
— solid	2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )
— solid or stranded	2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )
— finely stranded with core end processing	2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )
• for AWG cables for main contacts	2x (18 ... 2), 1x (18 ... 1)
<b>type of connectable conductor cross-sections</b>	
• for auxiliary contacts	
— solid	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
— solid or stranded	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
— finely stranded with core end processing	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
• for AWG cables for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
<b>AWG number as coded connectable conductor cross section for main contacts</b>	18 ... 1
<b>AWG number as coded connectable conductor cross section for auxiliary contacts</b>	20 ... 14

#### Safety related data

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

#### Electrical Safety

<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front

#### Approvals Certificates

##### General Product Approval



KC



EMV	Test Certificates	Maritime application
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Maritime application	other
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[Confirmation](#)

Railway	Environment
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[Special Test Certificate](#)

[Environmental Confirmations](#)

#### 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=3RT2536-1NP30>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2536-1NP30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2536-1NP30>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2536-1NP30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2536-1NP30&lang=en)

Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2536-1NP30/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2536-1NP30&objecttype=14&gridview=view1>



