



Contactor, AC-1, 275 A/690 V/40 °C, S6, 3-pole, 96-127 V AC/DC, F-PLC-IN with varistor, 2 NO+2 NC, permanently mounted, Connection rail/ screw terminal

product brand name	SIRIUS
product designation	Contactor
product type designation	3RT14
General technical data	
size of contactor	S6
product extension	
<ul style="list-style-type: none"> function module for communication auxiliary switch 	<p>No</p> <p>Yes</p>
power loss [W] for rated value of the current	
<ul style="list-style-type: none"> at AC in hot operating state at AC in hot operating state per pole without load current share typical 	<p>86.4 W</p> <p>28.8 W</p> <p>2.8 W</p>
insulation voltage	
<ul style="list-style-type: none"> of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value 	<p>1 000 V</p> <p>500 V</p>
surge voltage resistance	
<ul style="list-style-type: none"> of main circuit rated value of auxiliary circuit rated value 	<p>8 kV</p> <p>6 kV</p>
shock resistance at rectangular impulse	
<ul style="list-style-type: none"> at AC at DC 	<p>8,5g / 5 ms, 4,2g / 10 ms</p> <p>8,5g / 5 ms, 4,2g / 10 ms</p>
shock resistance with sine pulse	
<ul style="list-style-type: none"> at AC at DC 	<p>13,4g / 5 ms, 6,5g / 10 ms</p> <p>13,4g / 5 ms, 6,5g / 10 ms</p>
mechanical service life (switching cycles)	
<ul style="list-style-type: none"> of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical 	<p>10 000 000</p> <p>5 000 000</p> <p>10 000 000</p>
reference code according to IEC 81346-2	Q
Substance Prohibition (Date)	03/01/2017
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul style="list-style-type: none"> during operation during storage 	<p>-25 ... +60 °C</p> <p>-55 ... +80 °C</p>
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30	95 %

maximum	
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
type of voltage for main current circuit	AC
operational current	
<ul style="list-style-type: none"> ● 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 55 °C rated value — up to 690 V at ambient temperature 60 °C rated value ● at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 690 V rated value 	<p>275 A</p> <p>250 A</p> <p>250 A</p> <p>97 A</p> <p>97 A</p>
minimum cross-section in main circuit at maximum AC-1 rated value	140 mm ²
no-load switching frequency	
<ul style="list-style-type: none"> ● at AC ● at DC 	<p>1 000 1/h</p> <p>1 000 1/h</p>
operating frequency at AC-1 maximum	200 1/h
Control circuit/ Control	
type of voltage	AC/DC
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 ● at 60 Hz rated value 	<p>96 ... 127 V</p> <p>96 ... 127 V</p>
control supply voltage at DC	
<ul style="list-style-type: none"> ● rated value 	96 ... 127 V
type of PLC-control input according to IEC 60947-1	Type 1
consumed current at PLC-control input according to IEC 60947-1 maximum	30 mA
operating range factor control supply voltage rated value of magnet coil at DC	
<ul style="list-style-type: none"> ● initial value ● full-scale value 	<p>0.8</p> <p>1.1</p>
operating range factor control supply voltage rated value of magnet coil at AC	
<ul style="list-style-type: none"> ● at 50 Hz ● at 60 Hz 	<p>0.8 ... 1.1</p> <p>0.8 ... 1.1</p>
design of the surge suppressor	with varistor
apparent pick-up power of magnet coil at AC	
<ul style="list-style-type: none"> ● at 50 Hz 	280 VA
inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> ● at 50 Hz 	0.8
apparent holding power of magnet coil at AC	
<ul style="list-style-type: none"> ● at 50 Hz 	4.4 VA
inductive power factor with the holding power of the coil	
<ul style="list-style-type: none"> ● at 50 Hz 	0.5
closing power of magnet coil at DC	320 W
holding power of magnet coil at DC	2.8 W
closing delay	
<ul style="list-style-type: none"> ● at AC ● at DC 	<p>60 ... 75 ms</p> <p>60 ... 75 ms</p>
opening delay	
<ul style="list-style-type: none"> ● at AC ● at DC 	<p>115 ... 130 ms</p> <p>115 ... 130 ms</p>
arcing time	10 ... 15 ms
control version of the switch operating mechanism	Fail-safe PLC input (F-PLC-IN)

Auxiliary circuit	
number of NC contacts for auxiliary contacts	2
• attachable	4
• instantaneous contact	2
number of NO contacts for auxiliary contacts	2
• attachable	4
• instantaneous contact	2
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	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A
operational current at DC-13	
• 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
design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required	gG: 10 A (230 V, 400 A)
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
Short-circuit protection	
product function short circuit protection	No
design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 355 A (690 V, 100 kA)
— with type of assignment 2 required	gR: 350 A (690 V, 100 kA)
• for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	screw fixing
• side-by-side mounting	Yes
height	172 mm
width	120 mm
depth	170 mm
required spacing	
• with side-by-side mounting	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
• for grounded parts	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/ Terminals	
type of electrical connection	
• for main current circuit	Connection bar
• for auxiliary and control circuit	screw-type terminals

<ul style="list-style-type: none"> • at contactor for auxiliary contacts • of magnet coil 	Screw-type terminals Screw-type terminals
width of connection bar	17 mm
thickness of connection bar	3 mm
diameter of holes	9 mm
number of holes	1
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • at AWG cables for main contacts 	4 ... 250 kcmil
connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> • solid or stranded • stranded 	25 ... 120 mm ² 25 ... 120 mm ²
connectable conductor cross-section for auxiliary contacts	
<ul style="list-style-type: none"> • solid or 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 — solid or stranded — finely stranded with core end processing • at AWG cables 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

Safety related data

product function	
<ul style="list-style-type: none"> • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1 	Yes No
safety device type according to IEC 61508-2	Type B
B10 value with high demand rate according to SN 31920	1 000 000
Safety Integrity Level (SIL) according to IEC 61508	2
SIL Claim Limit (subsystem) according to EN 62061	2
performance level (PL) according to EN ISO 13849-1	c
category according to EN ISO 13849-1	2
stop category according to EN 60204-1	0
proportion of dangerous failures	
<ul style="list-style-type: none"> • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 	40 % 73 %
PFHD with high demand rate according to EN 62061	0.00000045 1/h
PFDavg with low demand rate according to IEC 61508	0.007
MTBF	75 y
hardware fault tolerance according to IEC 61508	0
T1 value for proof test interval or service life according to IEC 61508	20 y
protection class IP on the front according to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



EMC	Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	other
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[Type Examination Certificate](#)



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Confirmation](#)

other

Railway

[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=3RT1456-6SF36-3PA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1456-6SF36-3PA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1456-6SF36-3PA0>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1456-6SF36-3PA0&lang=en

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1456-6SF36-3PA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1456-6SF36-3PA0&objecttype=14&gridview=view1>

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