



power contactor AC-1 400 A / 690 V / 40 °C 3-pole, U_c: 42-48 V AC(50-60 Hz) / DC drive: conventional auxiliary contacts 2 NO + 2 NC main circuit: busbar control and auxiliary circuit: screw terminal

product brand name	SIRIUS
product designation	Contacteur
product type designation	3RT14
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	105.6 W
• at AC in hot operating state per pole	35.2 W
• without load current share typical	7.4 W
type of calculation of power loss depending on pole	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	500 V
surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
shock resistance at rectangular impulse	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 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 (Date)	05/01/2012
SVHC substance name	Lead - 7439-92-1
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	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	
- at AC-1 - 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 - at 400 V rated value - at 690 V rated value	400 A 380 A 380 A 138 A 138 A
minimum cross-section in main circuit at maximum AC-1 rated value	240 mm²
no-load switching frequency	
- at AC - at DC	2 000 1/h 2 000 1/h
operating frequency at AC-1 maximum	600 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	
- at 50 Hz rated value - at 60 Hz rated value	42 ... 48 V 42 ... 48 V
control supply voltage at DC rated value	
	42 ... 48 V
operating range factor control supply voltage rated value of magnet coil at DC	
- initial value - full-scale value	0.8 1.1
operating range factor control supply voltage rated value of magnet coil at AC	
- at 50 Hz - at 60 Hz	0.8 ... 1.1 0.8 ... 1.1
design of the surge suppressor	with varistor
apparent pick-up power	
- at minimum rated control supply voltage at AC - at 50 Hz - at 60 Hz - at maximum rated control supply voltage at AC - at 60 Hz - at 50 Hz	490 VA 490 VA 590 VA 590 VA
apparent pick-up power of magnet coil at AC	
at 50 Hz	590 VA
inductive power factor with closing power of the coil	
at 50 Hz	0.9
apparent holding power	
- at minimum rated control supply voltage at DC - at maximum rated control supply voltage at DC	6.1 VA 7.4 VA
apparent holding power	
- at minimum rated control supply voltage at AC - at 50 Hz - at 60 Hz - at maximum rated control supply voltage at AC - at 50 Hz - at 60 Hz	5.6 VA 5.6 VA 6.7 VA 6.7 VA
apparent holding power of magnet coil at AC	
at 50 Hz	6.7 VA

inductive power factor with the holding power of the coil • at 50 Hz	0.9
closing power of magnet coil at DC	650 W
holding power of magnet coil at DC	7.4 W
closing delay • at AC • at DC	30 ... 95 ms 30 ... 95 ms
opening delay • at AC • at DC	40 ... 80 ms 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 • attachable • instantaneous contact	2 4 2
number of NO contacts for auxiliary contacts • attachable • instantaneous contact	2 4 2
operational current at AC-12 maximum	10 A
operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value	6 A 3 A 2 A 1 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
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 — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required	 gG: 500 A (690 V, 100 kA) gR: 500 A (690 V, 100 kA) 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
height	210 mm
width	145 mm
depth	202 mm
required spacing • with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — forwards — upwards — at the side — downwards	 20 mm 10 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm

• for live parts — forwards — upwards — downwards — at the side	20 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	Connection bar screw-type terminals Screw-type terminals Screw-type terminals
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
connectable conductor cross-section for main contacts • solid or stranded • stranded	70 ... 240 mm ² 70 ... 240 mm ²
connectable conductor cross-section for auxiliary contacts • 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 • 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), 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 • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1 • suitable for safety function	Yes No Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920	40 % 73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
Electrical Safety	
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
Approvals Certificates	
General Product Approval	



[Confirmation](#)



EMV	Functional Safety	Test Certificates	Marine / Shipping
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[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping

other



[Confirmation](#)

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Railway

Environment

[Special Test Certificate](#)

[Environmental Confirmations](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3RT1466-6AD36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1466-6AD36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1466-6AD36>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1466-6AD36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1466-6AD36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1466-6AD36&objecttype=14&gridview=view1>

