



Contactor, AC-1, 275 A/690 V/40 °C, S6, 3-pole, 200-277 V AC/DC, F-PLC-IN with varistor, 2 NO+2 NC, Connection rail/ screw terminal

product brand name	SIRIUS
product designation	Contactor
product type designation	3RT14
General technical data	
size of contactor	S6
product extension	
• function module for communication	No
• auxiliary switch	Yes
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	690 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 (switching 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 acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.03.2017
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 acc. 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	275 A 250 A 250 A 97 A 97 A
minimum cross-section in main circuit at maximum AC-1 rated value	140 mm ²
no-load switching frequency	
- at AC - at DC	1 000 1/h 1 000 1/h
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	
- at 50 Hz rated value - at 60 Hz rated value	200 ... 277 V 200 ... 277 V
control supply voltage at DC	
rated value	200 ... 277 V
type of PLC-control input acc. to IEC 60947-1	Type 1
consumed current at PLC-control input acc. to IEC 60947-1 maximum	30 mA
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 of magnet coil at AC	
at 50 Hz	280 V·A
inductive power factor with closing power of the coil	
at 50 Hz	0.8
apparent holding power of magnet coil at AC	
at 50 Hz	4.4 V·A
inductive power factor with the holding power of the coil	
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	
- at AC - at DC	60 ... 75 ms 60 ... 75 ms
opening delay	
- at AC - at DC	115 ... 130 ms 115 ... 130 ms
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 - instantaneous contact	4 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
• at contactor for auxiliary contacts	Screw-type terminals
• of magnet coil	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 at AWG cables for main contacts	4 ... 250 kcmil
connectable conductor cross-section for main contacts - solid or stranded - stranded	25 ... 120 mm ² 25 ... 120 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 - 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	
safety device type acc. to IEC 61508-2	Type B
B10 value with high demand rate acc. to SN 31920	1 000 000
Safety Integrity Level (SIL) acc. to IEC 61508	2
SIL Claim Limit (subsystem) acc. to EN 62061	2
performance level (PL) acc. to EN ISO 13849-1	c
category acc. to EN ISO 13849-1	2
stop category acc. to DIN EN 60204-1	0
proportion of dangerous failures - with low demand rate acc. to SN 31920 - with high demand rate acc. to SN 31920	40 % 73 %
PFHD with high demand rate acc. to EN 62061	0.00000045 1/h
PFDavg with low demand rate acc. to IEC 61508	0.007
MTBF	75 y
hardware fault tolerance acc. to IEC 61508	0
T1 value for proof test interval or service life acc. to IEC 61508	20 y
protection class IP on the front acc. to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front acc. 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](#)



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Confirmation](#)

other	Railway
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[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=3RT1456-6SP36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1456-6SP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1456-6SP36>

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

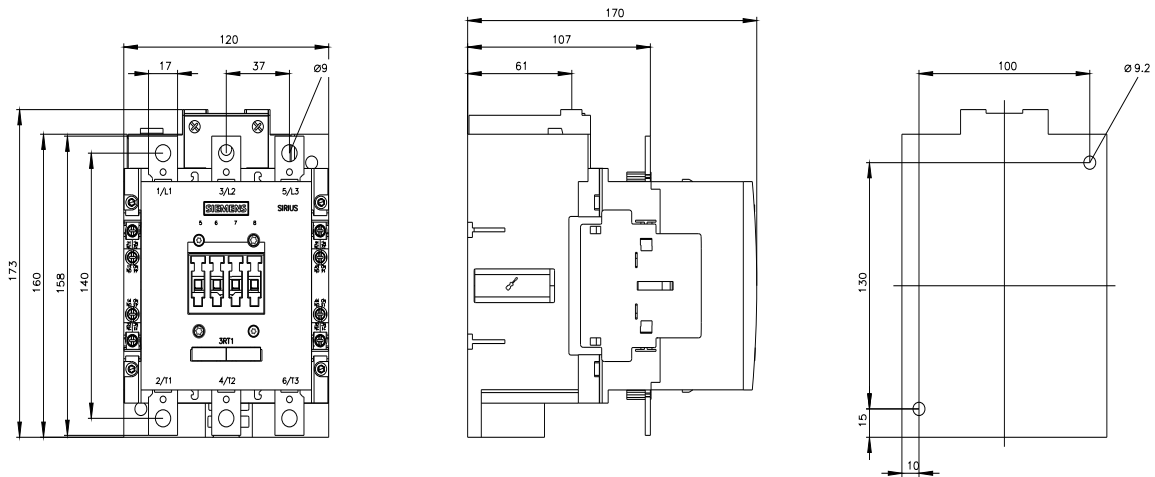
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1456-6SP36&lang=en

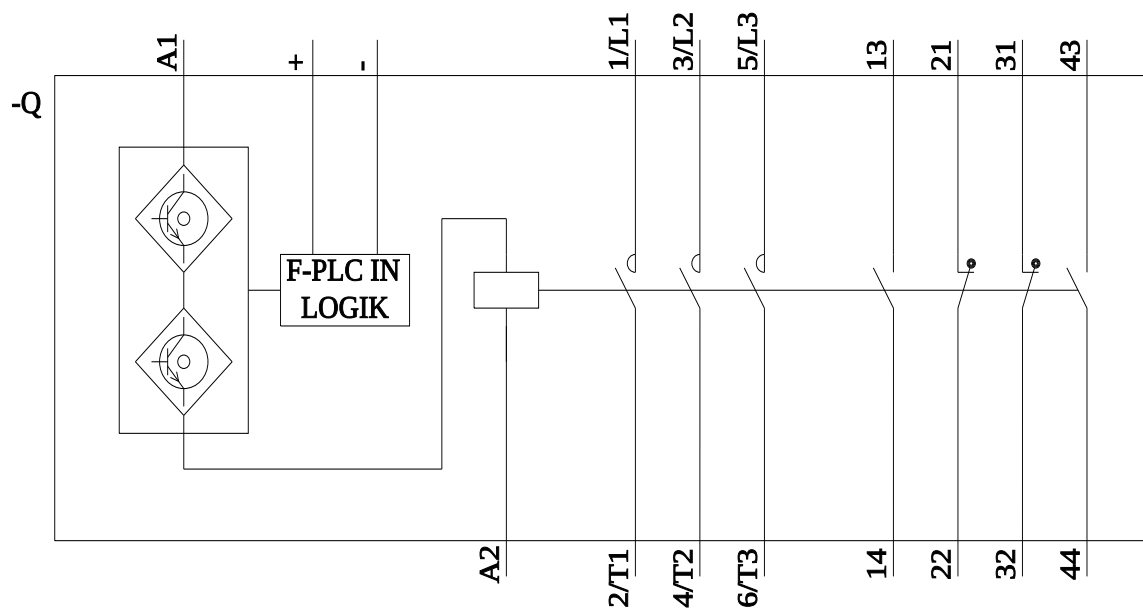
Characteristic: Tripping characteristics, I^2t , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1456-6SP36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1456-6SP36&objecttype=14&gridview=view1>





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