



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	
• 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 00:00:00
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 during operation	95 %
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3

type of voltage for main current circuit	AC
operating voltage at AC	
• at 50 Hz rated value	127 V
• at 60 Hz rated value	127 V
operational current	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	275 A
— up to 690 V at ambient temperature 55 °C rated value	250 A
— up to 690 V at ambient temperature 60 °C rated value	250 A
• at AC-3 at 400 V rated value	97 A
minimum cross-section in main circuit at maximum AC-1 rated value	140 mm ²
no-load switching frequency	
• at AC	1 000 1/h
• at DC	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	96 ... 127 V
• at 60 Hz rated value	96 ... 127 V
control supply voltage at DC	
• rated value	96 ... 127 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	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	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	60 ... 75 ms
• at DC	60 ... 75 ms
opening delay	
• at AC	115 ... 130 ms
• at DC	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
number of NO contacts for auxiliary contacts	2
• attachable • instantaneous contact	4
operational current at AC-12 maximum	2
operational current at AC-15	10 A
• 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: 355 A (690 V, 100 kA) gR: 350 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
• side-by-side mounting	Yes
height	172 mm
width	120 mm
depth	170 mm
required spacing	
• with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — forwards — upwards — at the side — downwards • for live parts — forwards — upwards — downwards — at the side	20 mm
	10 mm
	10 mm
	0 mm
	20 mm
	10 mm
	10 mm
	10 mm
	20 mm
	10 mm
	10 mm
	10 mm
Connections/ Terminals	
width of connection bar	17 mm
thickness of connection bar	3 mm
diameter of holes	9 mm
number of holes	1

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		
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 mm² 25 ... 120 mm²		
connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing	0.5 ... 4 mm² 0.5 ... 2.5 mm²		
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 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²) 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), max. 2x (0,75 ... 4 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14), 1x 12		
Safety related data			
product function mirror contact acc. to IEC 60947-4-1	Yes		
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	SIL2		
SIL Claim Limit (subsystem) acc. to EN 62061	SIL CL 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 %		
product function positively driven operation acc. to IEC 60947-5-1	No		
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		
suitability for use • safety-related switching on • safety-related switching OFF	No Yes		
Certificates/ approvals			
General Product Approval		EMC	Functional Safety/Safety of Machinery



[Type Examination Certificate](#)

Declaration of Conformity	Test Certificates	other
---------------------------	-------------------	-------

[Miscellaneous](#)[Special Test Certificate](#)[Type Test Certificates/Test Report](#)[Confirmation](#)[Miscellaneous](#)

Railway

[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, ...)

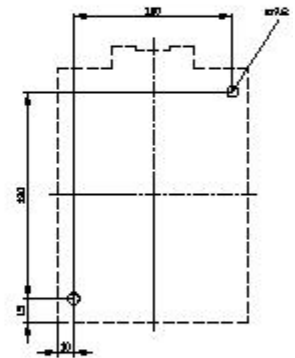
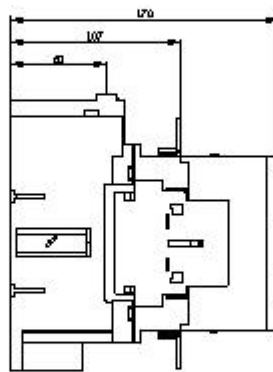
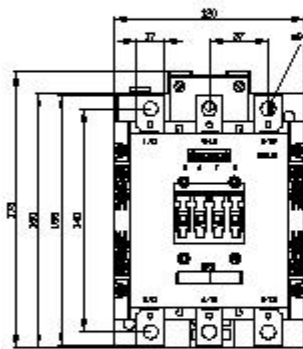
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1456-6SF36-3PA0&lang=en

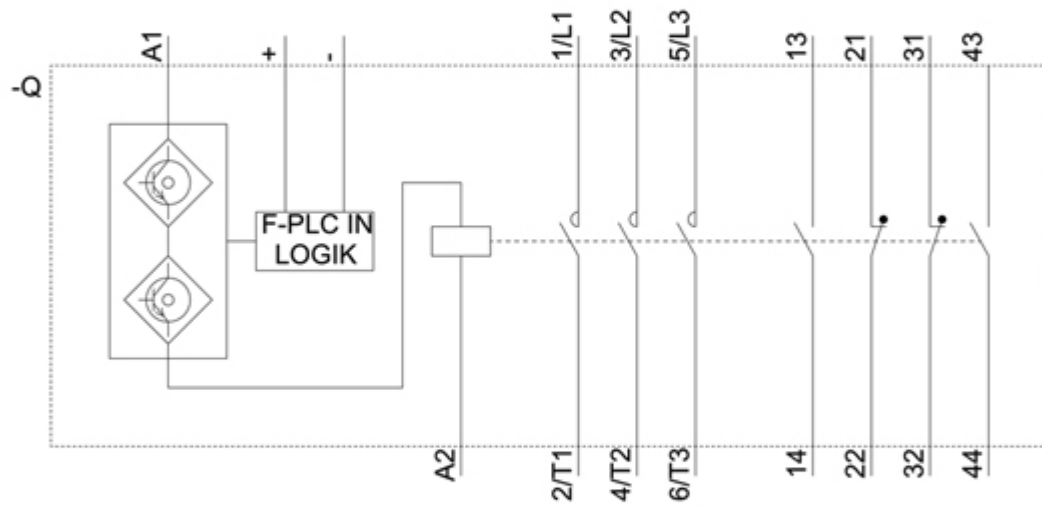
Characteristic: Tripping characteristics, I²t, Let-through current

<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>





last modified:

1/12/2021 [🔗](#)