

Contactor, AC-1, 275 A/690 V/40 °C, S6, 3-pole, 96-127 V AC/DC, F-PLC-IN with varistor, 2NO+2NC, connection bar/ screw terminal
Auxiliary contacts 2 NO + 2 NC



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
Protection class IP	
• on the front	IP00; IP20 on the front with cover / box terminal
• of the terminal	IP00

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 electronics-compatible auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
Reference code acc. to DIN EN 81346-2	Q

Ambient conditions

Installation altitude at height above sea level	
• maximum	2 000 m
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
Operating current	
• at AC-1 at 400 V	
— rated value	250 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	275 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 mm²
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 - at 60 Hz rated value	96 ... 127 V 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 - 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 attachable	2 4

• instantaneous contact	2
Number of NO contacts for auxiliary contacts	2
• attachable	4
• instantaneous contact	2
Operating current at AC-12 maximum	10 A
Operating 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
Operating 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
Mounting type	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 current circuit	screw-type terminals
• at contactor for auxiliary contacts	Screw-type terminals
• of magnet coil	Screw-type terminals
Type of connectable conductor cross-sections	
• at AWG conductors for main contacts	4 ... 250 kcmil
Connectable conductor cross-section for main contacts	
• single or multi-stranded	25 ... 120 mm ²
• stranded	25 ... 120 mm ²
Connectable conductor cross-section for auxiliary contacts	
• single or multi-stranded	0.5 ... 4 mm ²
• finely stranded with core end processing	0.5 ... 2.5 mm ²
Type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²)
— single or multi-stranded	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
• at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14), 1x 12

Safety related data

Proportion of dangerous failures	
• with low demand rate acc. to SN 31920	40 %
• with high demand rate acc. to SN 31920	73 %
Product function	
• Mirror contact acc. to IEC 60947-4-1	Yes

• positively driven operation acc. to IEC 60947-5-1	No
MTBF	75 y
T1 value for proof test interval or service life acc. to IEC 61508	20 y
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529

Certificates/ approvals

General Product Approval	EMC	Functional Safety/Safety of Machinery
 CCC	 EAC	 RCM
 CSA		Type Examination Certificate
 UL		

Declaration of Conformity	Test Certificates	other
 EG-Konf.	Miscellaneous Special Test Certificate Type Test Certificates/Test Report	Confirmation Miscellaneous

Railway

[Special Test Certificate](#)

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

www.siemens.com/sirius/catalogs

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1456-6SF36>

Cax online generator

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

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

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

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

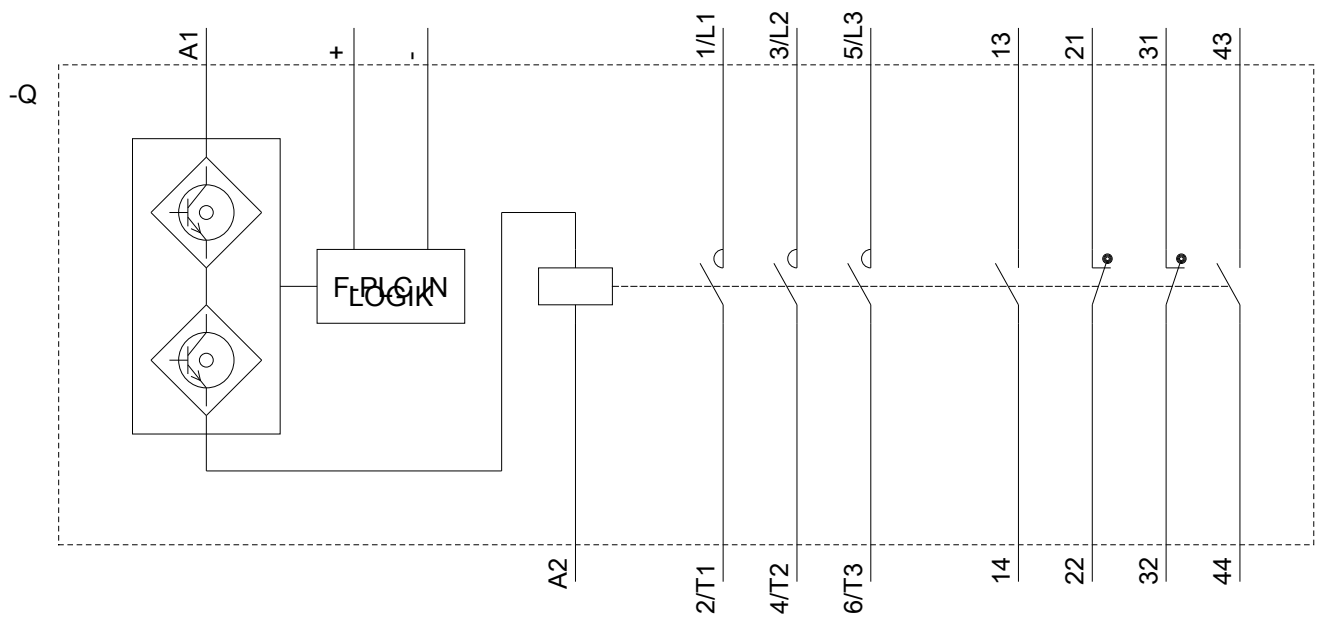
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1456-6SF36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

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

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

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



last modified:

10/17/2019