

Contactor, AC-1, 690 A/690 V/40 °C, S12, 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	S12
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
ambient temperature	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C
relative humidity during operation	0 ... 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	
— up to 690 V at ambient temperature 40 °C rated value	690 A
— up to 690 V at ambient temperature 55 °C rated value	600 A
— up to 690 V at ambient temperature 60 °C rated value	600 A
• at AC-3 at 400 V rated value	170 A
minimum cross-section in main circuit	
• at maximum AC-1 rated value	480 mm ²
no-load switching frequency	
• at AC	500 1/h
• at DC	500 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	750 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	7 V·A
inductive power factor with the holding power of the coil • at 50 Hz	0.8
closing power of magnet coil at DC	800 W
holding power of magnet coil at DC	3.6 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	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: 800 A (690 V, 50 kA)
— with type of assignment 2 required	gR: 710 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	214 mm
width	160 mm
depth	225 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


width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
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	2/0 ... 500 kcmil
connectable conductor cross-section for main contacts	
• single or multi-stranded	70 ... 240 mm ²
• stranded	70 ... 240 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)
• type of connectable conductor cross-sections at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14), 1x 12

Safety related data

proportion of dangerous failures	
<ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 	<p>40 %</p> <p>73 %</p>
product function	
<ul style="list-style-type: none"> • mirror contact acc. to IEC 60947-4-1 • positively driven operation acc. to IEC 60947-5-1 	<p>Yes</p> <p>No</p>
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
suitability for use safety-related switching OFF	Yes

Certificates/ approvals

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

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

Railway
Special Test Certificate

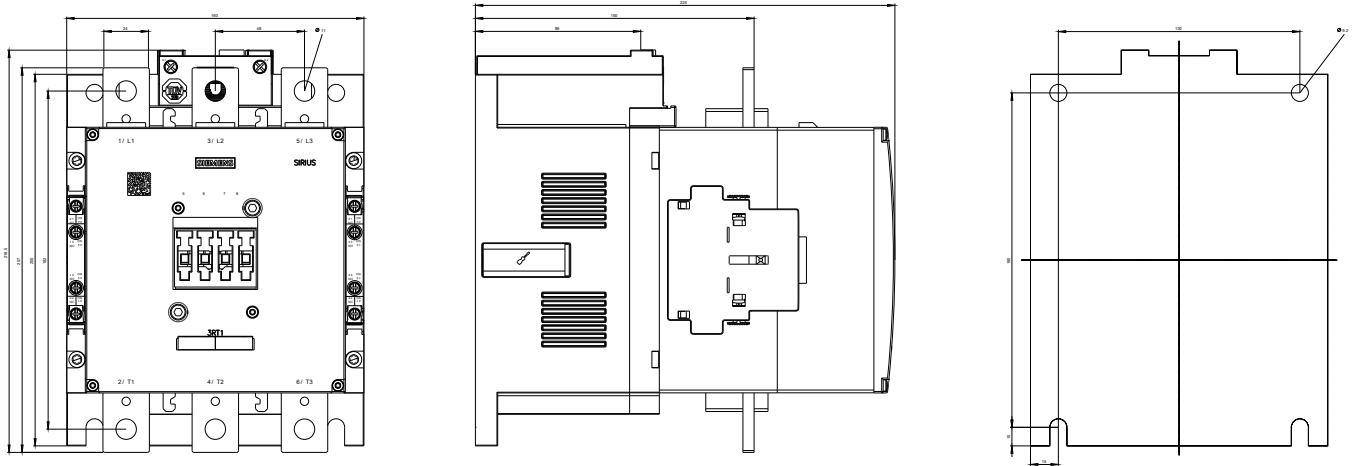
Further information

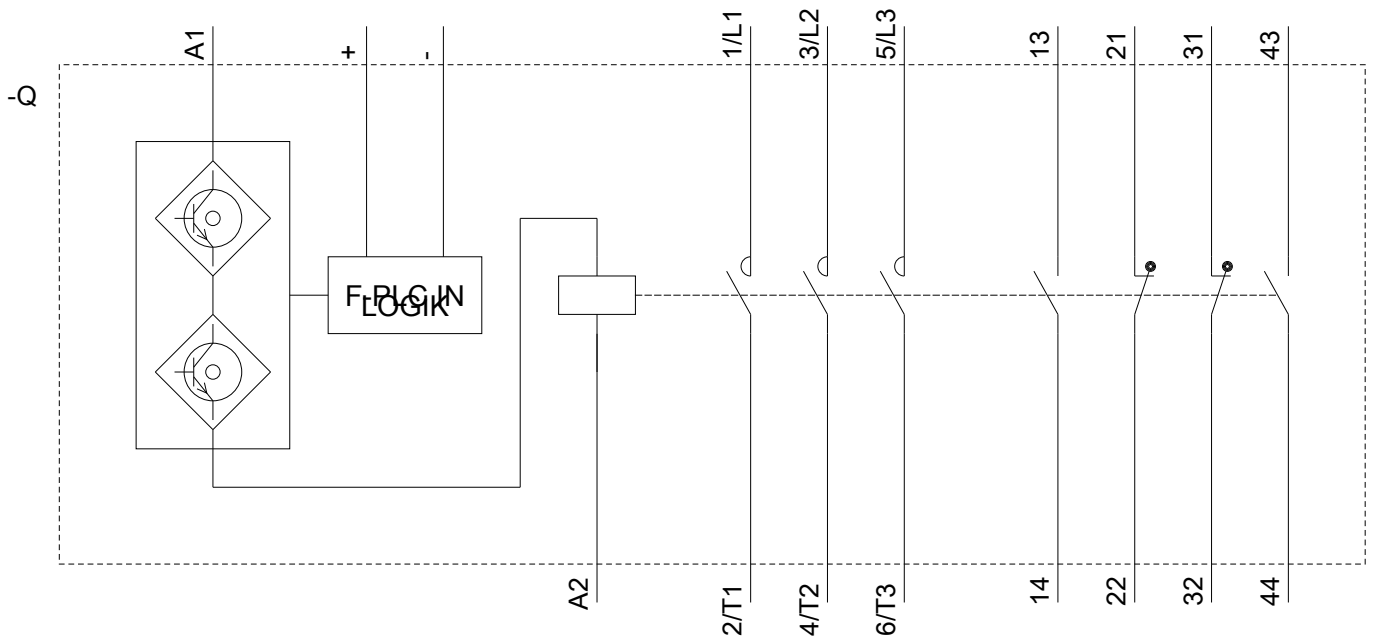
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<https://support.industry.siemens.com/cs/ww/en/ps/3RT1476-6SF36-3PA0>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1476-6SF36-3PA0&lang=en

Characteristic: Tripping characteristics, I^2t , Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1476-6SF36-3PA0/char>

Further characteristics (e.g. electrical endurance, switching frequency)
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1476-6SF36-3PA0&objecttype=14&gridview=view1>





last modified:

09/23/2020