## **SIEMENS**

Data sheet 3RT1064-6SF36



power contactor, AC-3e/AC-3 225 A, 110 kW / 400 V AC (50-60 Hz) / DC 96-127 V x (0.8-1.1) F-PLC input 24 V DC 3-pole, auxiliary contacts 2 NO + 2 NC drive: electronic main circuit: busbar control and auxiliary circuit: screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1
General technical data	
size of contactor	S10
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	51 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	17 W
<ul> <li>without load current share typical</li> </ul>	3.4 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	1 000 V
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	500 V
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	8 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V
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
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	03/01/2017
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Melamine - 108-78-1 Perfluorobutane sulfonic acid (PFBS) and its salts
Weight	6.42 kg
Ambient conditions	

installation altitude at height above sea level maximum	2 000 m
ambient temperature	2 000 111
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	95 %
maximum	30 /0
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
<ul> <li>at AC-3 rated value maximum</li> </ul>	1 000 V
at AC-3e rated value maximum	1 000 V
operational current	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	275 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	275 A
value	2.07.
<ul> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul>	250 A
— up to 1000 V at ambient temperature 40 °C rated value	100 A
— up to 1000 V at ambient temperature 60 °C rated	100 A
value	
• at AC-3	
— at 400 V rated value	225 A
— at 500 V rated value	225 A
— at 690 V rated value	225 A
— at 1000 V rated value	68 A
• at AC-3e	
— at 400 V rated value	225 A
— at 500 V rated value	225 A
— at 690 V rated value	225 A
— at 1000 V rated value	68 A
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	195 A
<ul> <li>at AC-5a up to 690 V rated value</li> </ul>	242 A
at AC-5b up to 400 V rated value	186 A
• at AC-6a	
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	225 A
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	225 A
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	225 A
— up to 690 V for current peak value n=20 rated value	225 A
<ul> <li>up to 1000 V for current peak value n=20 rated value</li> </ul>	68 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	172 A
— up to 400 V for current peak value n=30 rated value	172 A
— up to 500 V for current peak value n=30 rated value	172 A
— up to 690 V for current peak value n=30 rated value	172 A
— up to 1000 V for current peak value n=30 rated value	68 A
minimum cross-section in main circuit at maximum AC-1 rated value	150 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	96 A
at 690 V rated value	85 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	200 A
— at 60 V rated value	200 A
— at 110 V rated value	18 A
— at 220 V rated value	3.4 A

— at 440 V rated value	0.8 A
— at 600 V rated value	0.5 A
<ul><li>with 2 current paths in series at DC-1</li></ul>	
— at 24 V rated value	200 A
— at 60 V rated value	200 A
— at 110 V rated value	200 A
— at 220 V rated value	20 A
— at 440 V rated value	3.2 A
— at 600 V rated value	1.6 A
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— at 24 V rated value	200 A
— at 60 V rated value	200 A
— at 110 V rated value	200 A
— at 220 V rated value	200 A
— at 440 V rated value	11 A
— at 600 V rated value	4 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	200 A
— at 60 V rated value	7.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.17 A
— at 600 V rated value	0.12 A
with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	200 A
— at 60 V rated value	200 A
— at 110 V rated value	200 A
— at 220 V rated value	2.5 A
— at 440 V rated value	0.65 A
— at 600 V rated value	0.37 A
with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	200 A
— at 60 V rated value	200 A
— at 110 V rated value	200 A
— at 220 V rated value	200 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
operating power	0.1071
• at AC-2 at 400 V rated value	110 kW
• at AC-3	110 111
— at 230 V rated value	55 kW
— at 400 V rated value	110 kW
— at 500 V rated value	160 kW
— at 690 V rated value	200 kW
— at 1000 V rated value  — at 1000 V rated value	90 kW
• at AC-3e	VO ((1)
— at 230 V rated value	55 kW
— at 400 V rated value	110 kW
— at 500 V rated value	160 kW
— at 690 V rated value	200 kW
— at 1000 V rated value	90 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	54 kW
at 690 V rated value	82 kW
operating apparent power at AC-6a	
up to 230 V for current peak value n=20 rated value	90 kVA
up to 400 V for current peak value n=20 rated value	150 kVA
up to 500 V for current peak value n=20 rated value	190 kVA
up to 690 V for current peak value n=20 rated value	260 kVA
up to 1000 V for current peak value n=20 rated value	110 kVA
operating apparent power at AC-6a	
-bm-6 abbar and barres serves as	

<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	60 kVA
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	110 kVA
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	140 kVA
<ul> <li>up to 690 V for current peak value n=30 rated value</li> </ul>	200 kVA
• up to 1000 V for current peak value n=30 rated value	110 kVA
short-time withstand current in cold operating state up to	
40 °C	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	4 000 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	2 807 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	2 082 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	1 397 A; Use minimum cross-section acc. to AC-1 rated value
limited to 60 s switching at zero current maximum	1 144 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	1 000 1/h
• at DC	1 000 1/h
operating frequency	
• at AC-1 maximum	500 1/h
• at AC-2 maximum	250 1/h
• at AC-3 maximum	500 1/h
• at AC-3e maximum	500 1/h
at AC-4 maximum	130 1/h
Control circuit/ Control	
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
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
type of PLC-control input according to IEC 60947-1	Type 1
consumed current at PLC-control input according to IEC 60947-1 maximum	14 mA
voltage at PLC-control input rated value	24 V
operating range factor of the voltage at PLC-control input	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	400 VA
— at 60 Hz	400 VA
<ul> <li>at maximum rated control supply voltage at AC</li> </ul>	
— at 60 Hz	530 VA
— at 50 Hz	530 VA
apparent pick-up power of magnet coil at AC	
• at 50 Hz	530 VA
• at 60 Hz	530 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.8
apparent holding power	
<ul> <li>at minimum rated control supply voltage at DC</li> </ul>	2.8 VA
<ul> <li>at maximum rated control supply voltage at DC</li> </ul>	
at maximum rated control supply voltage at Do	3.4 VA
apparent holding power	3.4 VA
	3.4 VA
apparent holding power	3.4 VA 5.5 VA
apparent holding power  • at minimum rated control supply voltage at AC	

at 50 Hz	8.5.\/\
— at 50 Hz	8.5 VA
— at 60 Hz	8.5 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.5
• at 60 Hz	0.4
closing power of magnet coil at DC	580 W
holding power of magnet coil at DC	3.4 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
recovery time after power failure typical	2 s
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 instantaneous contact	2
number of NO contacts for auxiliary contacts 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-12	
at 24 V rated value	10 A
at 48 V rated value	6 A
at 60 V rated value	6 A
at 110 V rated value	3 A
at 125 V rated value	2 A
at 220 V rated value	1 A
at 600 V rated value	0.15 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	1A
at 125 V rated value	0.9 A
at 220 V rated value	0.3 A
at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	180 A
at 600 V rated value	192 A
yielded mechanical performance [hp]	
• for 3-phase AC motor	
— at 200/208 V rated value	60 hp
— at 220/230 V rated value	75 hp
— at 460/480 V rated value	150 hp
— at 575/600 V rated value	200 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
· · · · · · · · · · · · · · · · · · ·	
design of the fuse link  • for short-circuit protection of the main circuit	
with type of coordination 1 required	gG: 500 A (690 V, 100 kA)
— with type of coordination i required	90. 300 A (030 V, 100 M)

— with type of assignment 2 required	gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 A (415 V, 50 kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	ge. 10 11 (000 1, 1 10 y)
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method side-by-side mounting	Yes
fastening method	screw fixing
height	210 mm
width	145 mm
depth	202 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
— at the side  — downwards	10 mm
ownwards     for live parts	TO THE
·	20
— 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
<ul> <li>for auxiliary and control circuit</li> </ul>	screw-type terminals
<ul> <li>at contactor for auxiliary contacts</li> </ul>	Screw-type terminals
of magnet coil	Screw-type terminals
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
type of connectable conductor cross-sections	
for AWG cables for main contacts	2/0 500 kcmil
connectable conductor cross-section for main contacts	
• stranded	70 240 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 4 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), max. 2x (0.75 4 mm²)
— solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), max. 2x (0,75 4 mm²)
finely stranded with core end processing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 16), 2x (18 14), 1x 12
AWG number as coded connectable conductor cross	, , , , , , , , , , , , , , , , , , , ,
section	
for auxiliary contacts	18 14
Safety related data	
product function	
<ul> <li>mirror contact according to IEC 60947-4-1</li> </ul>	Yes
<ul> <li>positively driven operation according to IEC 60947-5-1</li> </ul>	No
suitable for safety function	Yes
suitability for use safety-related switching OFF	Yes
safe state	off
test wear-related service life necessary	Yes

stop category according to IEC 60204-1	0
proportion of dangerous failures	
<ul> <li>with low demand rate according to SN 31920</li> </ul>	40 %
<ul> <li>with high demand rate according to SN 31920</li> </ul>	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
MTBF	75 a
IEC 62061	
Safety Integrity Level (SIL) according to IEC 62061	SIL 2
PFHD with high demand rate according to IEC 62061	4.5E-7 1/h
ISO 13849	
performance level (PL) according to ISO 13849-1	PL c
category according to ISO 13849-1	2
device type according to ISO 13849-1	1
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
Safety Integrity Level (SIL) according to IEC 61508	2
safety device type according to IEC 61508-2	Type B
PFHD with high demand rate according to IEC 61508	4.5E-7 1/h
PFDavg with low demand rate according to IEC 61508	0.007
Safe failure fraction (SFF)	93 %
hardware fault tolerance according to IEC 61508	0
T1 value of service life according to IEC 61508	20 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** 









<u>KC</u>



EMV Functional Saftey Test Certificates other



Type Examination Certificate Special Test Certificate

Type Test Certificates/Test Report Confirmation

**Miscellaneous** 

other Railway Environment

<u>Miscellaneous</u> <u>Special Test Certific-ate</u> <u>Environmental Confirmations</u>

## Further informatior

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)

 $\underline{https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1064-6SF36}$ 

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1064-6SF36

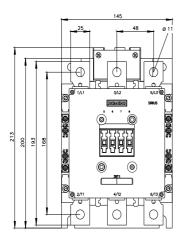
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

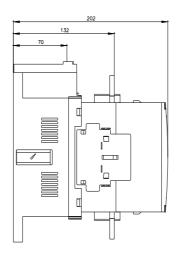
https://support.industry.siemens.com/cs/ww/en/ps/3RT1064-6SF36

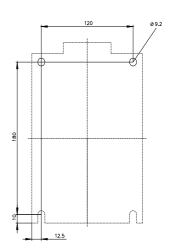
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

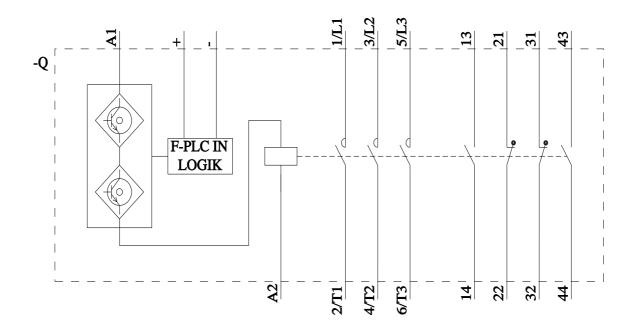
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1064-6SF36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current <a href="https://support.industry.siemens.com/cs/ww/en/ps/3RT1064-6SF36/characteristics">https://support.industry.siemens.com/cs/ww/en/ps/3RT1064-6SF36/characteristics</a>, I²t, Let-through current









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