## **SIEMENS**

Data sheet 3RT1056-6SP36

0101110



power contactor, AC-3e/AC-3 185 A, 90 kW / 400 V AC (50-60 Hz) / DC Uc: 200-277 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	S6
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>	39 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	13 W
without load current share typical	2.8 W
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	1 000 V
of auxiliary circuit with degree of pollution 3 rated value	500 V
surge voltage resistance	
of main circuit rated value	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)	
<ul> <li>of contactor typical</li> </ul>	10 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
of the contactor with added auxiliary switch block typical	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	03/01/2017
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 according 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	
operating voltage		
at AC-3 rated value maximum	1 000 V	
at AC-3e rated value maximum	1 000 V	
operational current		
at AC-1 at 400 V at ambient temperature 40 °C rated value	215 A	
• at AC-1		
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	215 A	
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	185 A	
— up to 1000 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	100 A	
— up to 1000 V at ambient temperature 60 °C rated value	100 A	
• at AC-3		
— at 400 V rated value	185 A	
— at 500 V rated value	185 A	
— at 690 V rated value	170 A	
— at 1000 V rated value	65 A	
• at AC-3e		
— at 400 V rated value	185 A	
— at 500 V rated value	185 A	
— at 690 V rated value	170 A	
— at 1000 V rated value	65 A	
• at AC-4 at 400 V rated value	160 A	
• at AC-5a up to 690 V rated value	189 A	
• at AC-5b up to 400 V rated value	153 A	
• at AC-6a		
— up to 230 V for current peak value n=20 rated value	157 A	
— up to 400 V for current peak value n=20 rated value	157 A	
— up to 500 V for current peak value n=20 rated value	157 A	
— up to 690 V for current peak value n=20 rated value	157 A	
— up to 1000 V for current peak value n=20 rated	65 A	
value		
• at AC-6a		
— up to 230 V for current peak value n=30 rated value	105 A	
— up to 400 V for current peak value n=30 rated value	105 A	
— up to 500 V for current peak value n=30 rated value	105 A	
— up to 690 V for current peak value n=30 rated value	105 A	
— up to 1000 V for current peak value n=30 rated value	65 A	
minimum cross-section in main circuit at maximum AC-1 rated value	95 mm²	
operational current for approx. 200000 operating cycles at AC-4		
at 400 V rated value	81 A	
at 690 V rated value	65 A	
operational current		
at 1 current path at DC-1		
— at 24 V rated value	160 A	
— at 60 V rated value	160 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	
a with 2 aureant noths in social at DC 4		
with 2 current paths in series at DC-1		
— at 24 V rated value	160 A	
	160 A 160 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	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	11.5 A
— at 600 V rated value	4 A
<ul> <li>at 1 current path at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	160 A
— at 60 V rated value	7.5 A
— at 110 V rated value	2.5 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
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 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	0.077
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
	0.75 A
operating power  • at AC-2 at 400 V rated value	90 kW
• at AC-3	30 KVV
— at 230 V rated value	55 kW
— at 400 V rated value	90 kW
— at 500 V rated value	132 kW
— at 690 V rated value	160 kW
— at 1000 V rated value	90 kW
• at AC-3e	EE IAM
— at 230 V rated value	55 kW
— at 400 V rated value	90 kW
— at 500 V rated value	132 kW
— at 690 V rated value	160 kW
— at 1000 V rated value	90 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	45 kW
at 690 V rated value	65 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	60 000 kVA
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	100 000 VA
up to 400 V for current peak value n=20 rated value      up to 500 V for current peak value n=20 rated value	130 000 VA
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	180 000 VA
up to 1000 V for current peak value n=20 rated value	110 000 VA
operating apparent power at AC-6a	40,000 \/A
up to 230 V for current peak value n=30 rated value	40 000 VA
up to 400 V for current peak value n=30 rated value	70 000 VA
up to 500 V for current peak value n=30 rated value	90 000 VA
• up to 690 V for current peak value n=30 rated value	120 000 VA
up to 1000 V for current peak value n=30 rated value	110 000 VA

short-time withstand current in cold operating state up to 40 °C	
• limited to 1 s switching at zero current maximum	2 900 A; Use minimum cross-section acc. to AC-1 rated value
-	2 084 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> <li>limited to 10 s switching at zero current maximum</li> </ul>	1 480 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 10's switching at zero current maximum     Ilmited to 30's switching at zero current maximum	968 A; Use minimum cross-section acc. to AC-1 rated value
-	
Ilmited to 60 s switching at zero current maximum	801 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	4 000 4/1-
• at AC	1 000 1/h
• at DC	1 000 1/h
operating frequency	750.4/1-
• at AC-1 maximum	750 1/h
• at AC-2 maximum	300 1/h
at AC-3 maximum	750 1/h
at AC-3e maximum	750 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	200 277 V
at 60 Hz rated value	200 277 V
control supply voltage at DC	
rated value	200 277 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	14 mA
60947-1 maximum	III TIIN
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 of magnet coil at AC	
● at 50 Hz	280 VA
• at 60 Hz	280 VA
inductive power factor with closing power of the coil	
● at 50 Hz	0.8
● at 60 Hz	0.8
apparent holding power of magnet coil at AC	
• at 50 Hz	4.8 VA
• at 60 Hz	4.8 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.6
• at 60 Hz	0.6
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
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	· all balls i Lo liput (i i Lo liv)
	2
number of NC contacts for auxiliary contacts instantaneous	2

contact	
number of NO contacts for auxiliary contacts instantaneous	2
contact	
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	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
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 single-phase AC motor	00.1
— at 230 V rated value	30 hp
• for 3-phase AC motor	00 hp
— 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 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 coordination is required  - with type of assignment 2 required	gG: 315 A (690 V, 100 kA) gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 315 A (415 V, 50
— with type of assignment 2 required	(415 V, 50 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	
<ul> <li>with side-by-side mounting</li> </ul>	
— forwards	20 mm
— upwards	10 mm
	10 mm 10 mm
— upwards	

— 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
connectable conductor cross-section for main contacts	2F 120 mm²
stranded	25 120 mm²
connectable conductor cross-section for auxiliary contacts	0.5 4 mm²
solid or stranded	0.5 4 mm²
finely stranded with core end processing	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)
<ul> <li>finely stranded with core end processing</li> </ul>	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	10 14
product function	Voc
mirror contact according to IEC 60947-4-1      marking to driver an exerting to IEC 60947-5-4.      marking to driver an exerting to IEC 60947-5-4.      marking to driver an exercise to a second to the IEC 60947-6-1.	Yes
positively driven operation according to IEC 60947-5-1	No The Desire of the Control of the
safety device type according to IEC 61508-2	Type B
B10 value with high demand rate according to SN 31920	1 000 000
Safety Integrity Level (SIL) according to IEC 61508	2
SIL Claim Limit (subsystem) according to EN 62061	2
performance level (PL) according to EN ISO 13849-1	C
category according to EN ISO 13849-1	2
stop category according to EN 60204-1	0
Safe failure fraction (SFF)	93 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
PFHD with high demand rate according to EN 62061	4.5E-7 1/h
3	
PFDavg with low demand rate according to IEC 61508	0.007
	0.007 75 a
PFDavg with low demand rate according to IEC 61508	
PFDavg with low demand rate according to IEC 61508 MTBF	75 a
PFDavg with low demand rate according to IEC 61508  MTBF  hardware fault tolerance according to IEC 61508  T1 value for proof test interval or service life according to IEC	75 a 0
PFDavg with low demand rate according to IEC 61508 MTBF hardware fault tolerance according to IEC 61508 T1 value for proof test interval or service life according to IEC 61508	75 a 0 20 a
PFDavg with low demand rate according to IEC 61508 MTBF hardware fault tolerance according to IEC 61508 T1 value for proof test interval or service life according to IEC 61508 protection class IP on the front according to IEC 60529	75 a 0 20 a IP00; IP20 with box terminal/cover
PFDavg with low demand rate according to IEC 61508 MTBF hardware fault tolerance according to IEC 61508 T1 value for proof test interval or service life according to IEC 61508 protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529	75 a 0 20 a IP00; IP20 with box terminal/cover
PFDavg with low demand rate according to IEC 61508 MTBF hardware fault tolerance according to IEC 61508 T1 value for proof test interval or service life according to IEC 61508 protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529 suitability for use	75 a 0 20 a IP00; IP20 with box terminal/cover finger-safe, for vertical contact from the front with box terminal/cover
PFDavg with low demand rate according to IEC 61508  MTBF hardware fault tolerance according to IEC 61508  T1 value for proof test interval or service life according to IEC 61508  protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529 suitability for use  • safety-related switching on	75 a 0 20 a IP00; IP20 with box terminal/cover finger-safe, for vertical contact from the front with box terminal/cover
PFDavg with low demand rate according to IEC 61508  MTBF hardware fault tolerance according to IEC 61508  T1 value for proof test interval or service life according to IEC 61508  protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529 suitability for use  • safety-related switching on • safety-related switching OFF	75 a 0 20 a IP00; IP20 with box terminal/cover finger-safe, for vertical contact from the front with box terminal/cover



Confirmation





<u>KC</u>



Functional

EMC Safety/Safety of Machinery

**Declaration of Conformity** 

**Test Certificates** 



Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

other Railway

<u>Confirmation</u> <u>Miscellaneous</u> <u>Miscellaneous</u> <u>Vibration and Shock</u> <u>Special Test Certificate</u>

## Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1056-6SP36

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1056-6SP36

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6SP36

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

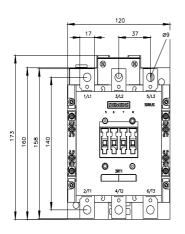
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1056-6SP36&lang=en

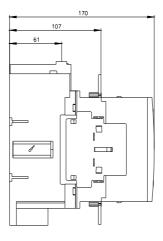
Characteristic: Tripping characteristics, I2t, Let-through current

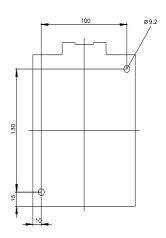
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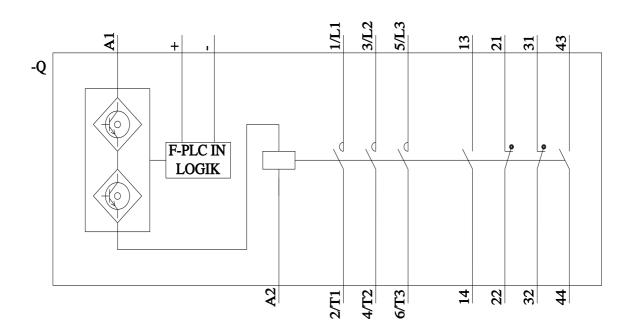
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1056-6SP36&objecttype=14&gridview=view1









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