## **SIEMENS**

**Data sheet** 3RT1056-6AB36



Power contactor, AC-3 185 A, 90 kW / 400 V AC (50-60 Hz) / DC operation 23-26 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S6 Busbar connections Drive: conventional 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 at AC in hot operating state	39 W
• per pole	13 W
power loss [W] for rated value of the current without load current share typical	5.2 W
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 safe isolation between coil and main contacts acc. 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 (switching 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 acc. to IEC 81346-2	Q
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature during operation	-25 +60 °C
ambient temperature during storage	-55 +80 °C
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3

<ul> <li>operating voltage at AC-3 rated value maximum</li> </ul>	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 °C rated value	215 A
— up to 690 V at ambient temperature 60 °C rated value	185 A
<ul> <li>up to 1000 V at ambient temperature 40 °C rated value</li> </ul>	100 A
<ul> <li>up to 1000 V at ambient temperature 60 °C rated value</li> </ul>	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
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	160 A
• at AC-5a up to 690 V rated value	189 A
<ul> <li>at AC-5b up to 400 V rated value</li> <li>at AC-6a</li> </ul>	153 A
up to 230 V for current peak value n=20 rated value	157 A
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	157 A
— up to 500 V for current peak value n=20 rated value	157 A
<ul><li>up to 690 V for current peak value n=20 rated value</li></ul>	157 A
— up to 1000 V for current peak value n=20 rated value	65 A
• 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	04.4
at 400 V rated value     at 600 V rated value	81 A
at 690 V rated value	65 A
operational current	
at 1 current path at DC-1     at 24 V roted value.	160 A
— at 24 V rated value — at 110 V rated value	160 A 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
with 2 current paths in series at DC-1	400.4
— at 24 V rated value	160 A
— at 110 V rated value	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 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
operational current	
<ul> <li>at 1 current path at DC-3 at DC-5</li> </ul>	
<ul><li>— at 24 V rated value</li></ul>	160 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 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
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 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
operating power	
• at AC-3	
— 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	O KIT
at AC-4	
• 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 kV·A
• up to 400 V for current peak value n=20 rated value	100 000 V·A
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	130 000 V·A
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	180 000 V·A
up to 1000 V for current peak value n=20 rated	110 000 V·A
value	
operating apparent power at AC-6a	
<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	40 000 V·A
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	70 000 V·A
• up to 500 V for current peak value n=30 rated value	90 000 V·A
• up to 690 V for current peak value n=30 rated value	120 000 V·A
<ul> <li>up to 1000 V for current peak value n=30 rated value</li> </ul>	110 000 V·A
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
limited to 1 s switching at zero current maximum     limited to 5 s switching at zero current maximum	2 084 A; Use minimum cross-section acc. to AC-1 rated value
_	
limited to 10 s switching at zero current maximum     limited to 30 s switching at zero current maximum	1 480 A; Use minimum cross-section acc. to AC-1 rated value
limited to 30 s switching at zero current maximum     limited to 60 s switching at zero current maximum	968 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 60 s switching at zero current maximum  no load switching fraguency	801 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency  • at AC	2 000 1/h
▼ at ∧∪	2 000 IIII



• at DC	2 000 1/h
operating frequency	
• at AC-1 maximum	800 1/h
at AC-2 maximum	300 1/h
at AC-3 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	NOIDO
• at 50 Hz rated value	23 26 V
at 60 Hz rated value     at 60 Hz rated value	23 26 V
control supply voltage at DC	20 20 V
• rated value	23 26 V
operating range factor control supply voltage rated	20 20 V
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	300 V·A
inductive power factor with closing power of the coil	
● at 50 Hz	0.9
apparent holding power of magnet coil at AC	
● at 50 Hz	5.8 V·A
inductive power factor with the holding power of the	
coil	
• at 50 Hz	0.8
closing power of magnet coil at DC	360 W
holding power of magnet coil at DC	5.2 W
closing delay	00 05
• at AC	20 95 ms
• at DC	20 95 ms
opening delay	40
• at AC	40 60 ms
• at DC	40 60 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts	2
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
<ul> <li>at 500 V rated value</li> </ul>	2 A
at 500 V rated value     at 690 V rated value	2 A 1 A
at 690 V rated value	
at 690 V rated value     operational current at DC-12	1 A
at 690 V rated value     operational current at DC-12     at 24 V rated value	1 A 10 A
<ul> <li>at 690 V rated value</li> <li>operational current at DC-12</li> <li>at 24 V rated value</li> <li>at 48 V rated value</li> </ul>	1 A 10 A 6 A
<ul> <li>at 690 V rated value</li> <li>operational current at DC-12</li> <li>at 24 V rated value</li> <li>at 48 V rated value</li> <li>at 60 V rated value</li> </ul>	1 A 10 A 6 A 6 A
<ul> <li>at 690 V rated value</li> <li>operational current at DC-12</li> <li>at 24 V rated value</li> <li>at 48 V rated value</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> </ul>	1 A  10 A 6 A 6 A 3 A



e at 600 V rated value	0.15 A
at 600 V rated value	0.15 A
operational current at DC-13	40.4
• 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
<ul> <li>at 125 V rated value</li> </ul>	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]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 230 V rated value	30 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 / Q600
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 assignment 2 required	gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 100 kA), BS88: 315 A (415 V, 50 kA)
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
Installation/ mounting/ dimensions	
Installation/ mounting/ dimensions mounting position	surface +/- 22.5° tiltable to the front and back
Installation/ mounting/ dimensions mounting position fastening method	surface +/- 22.5° tiltable to the front and back screw fixing
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm
Installation/ mounting/ dimensions  mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 10 mm 0 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 10 mm 0 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 0 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 10 mm 10 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 0 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 10 mm 10 mm 10 mm 10 mm 10 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 10 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 0 mm 10 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 0 mm 10 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 0 mm 10 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 10 mm
Installation/ mounting/ dimensions  mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 10 mm
Installation/ mounting/ dimensions mounting position  fastening method	surface +/- 22.5° tiltable to the front and back screw fixing Yes 172 mm 120 mm 170 mm  20 mm 10 mm 0 mm 10 mm



diameter of holes	9 mm
number of holes	1
type of electrical connection	
<ul> <li>for main current circuit</li> </ul>	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
type of connectable conductor cross-sections	
<ul> <li>at AWG cables for main contacts</li> </ul>	4 250 kcmil
connectable conductor cross-section for main contacts	
stranded	25 120 mm²
connectable conductor cross-section for auxiliary contacts	
<ul> <li>solid or stranded</li> </ul>	0.5 4 mm <sup>2</sup>
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm²
type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), max. 2x (0.75 4 mm²)
<ul><li>— solid or stranded</li></ul>	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)
<ul> <li>at AWG cables for auxiliary contacts</li> </ul>	2x (20 16), 2x (18 14), 1x 12
<ul> <li>AWG number as coded connectable conductor cross section for auxiliary contacts</li> </ul>	18 14
Safety related data	
B10 value with high demand rate acc. to SN 31920	1 000 000
product function	
<ul> <li>mirror contact acc. to IEC 60947-4-1</li> </ul>	Yes
<ul> <li>positively driven operation acc. to IEC 60947-5-1</li> </ul>	No
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 OFF	Yes
Partificatos/approvals	

Certificates/ approvals

**General Product Approval** 









<u>KC</u>





**Declaration of Conformity** 

**Test Certificates** 

Marine / Shipping

**Miscellaneous** 



Special Test Certificate Type Test
Certificates/Test
Report

Miscellaneous



Marine / Shipping

other





Miscellaneous

Confirmation

Confirmation

Miscellaneous

Railway



## **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=3RT1056-6AB36

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1056-6AB36

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6AB36

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

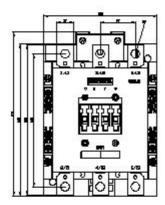
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1056-6AB36&lang=en

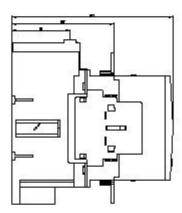
Characteristic: Tripping characteristics, I2t, Let-through current

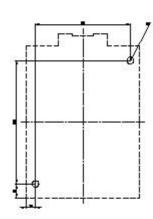
https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6AB36/char

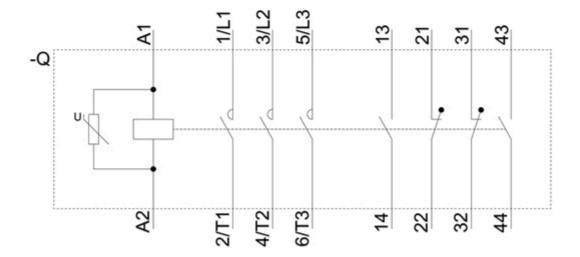
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1056-6AB36&objecttype=14&gridview=view1









last modified: 12/18/2020 🖸