SIEMENS

product brand name

Data sheet 3RT1056-6AV36

SIRIUS



power contactor, AC-3 185 A, 90 kW / 400 V AC (50-60 Hz) / DC operation 380-420 V AC/DC auxiliary contacts 2 NO + 2 NC 3-pole, frame size S6 busbar connections drive: conventional screw terminal

product brand name	SIKIUS
product designation	Power contactor
product type designation	3RT1
General technical data	
size of contactor	S6
product extension	
 function module for communication 	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	39 W
 at AC in hot operating state per pole 	13 W
 without load current share typical 	5.2 W
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 	500 V
surge voltage resistance	
of main circuit rated value	8 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation 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 (switching cycles)	
of contactor typical	10 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	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)	05/01/2012
mbient 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	95 %
maximum	
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 at AC-1 	215 A
— 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 °C rated value 	100 A
— up to 1000 V at ambient temperature 60 °C rated value	100 A
• at AC-3	405.4
— 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— up to 1000 V for current peak value n=20 rated	157 A 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 valueup to 1000 V for current peak value n=30 rated	105 A 65 A
value minimum cross-section in main circuit at maximum AC-1	95 mm ²
rated value 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 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
• with 2 current paths in series at DC-1	
— 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
	1.0 A
with 3 current paths in series at DC-1	400 A
— 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
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	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
 with 2 current paths in series at DC-3 at DC-5 	
— 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
 with 3 current paths in series at DC-3 at DC-5 	
— 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
at AC-3e	OU IVV
	EE NW
— 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-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 kVA
• up to 400 V for current peak value n=20 rated value	100 000 VA
• up to 500 V for current peak value n=20 rated value	130 000 VA
• up to 690 V for current peak value n=20 rated value	180 000 VA
 up to 390 V for current peak value n=20 rated up to 1000 V for current peak value n=20 rated 	110 000 VA
value	
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	40 000 VA

up to 5000. V for current peak value m-30 rated value up to 1000. V for current peak value m-30 rated value up to 1000. V for current peak value m-30 rated value up to 1000. V for current peak value m-30 rated value value short-time withstand current in cold operating state up to 40°C ilmided to 1s switching at zero current maximum no-load switching frequency et at CC et at DC et at CC et at CC + maximum et at AC-1 maximum et at AC-1 maximum et at AC-1 maximum et at AC-2 maximum et at AC-2 maximum et at AC-3 maximum et at AC-4 maximum et at AC-4 maximum et at AC-4 maximum et at AC-1 rated value et at Ot 1r rated value et at Ot 1r rated value eat Ot 1r			
up to 1900 V for current peak value n=30 rated value value opa 100 000 V for current peak value n=30 rated value value opa 100 V for current peak value n=30 rated value valu	 up to 400 V for current peak value n=30 rated value 	70 000 VA	
# up to 1000 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C imited to 1 s switching at zero current maximum imited to 50 s switching at zero current maximum imited to 50 s switching at zero current maximum imited to 30 s switching at zero current maximum imited to 30 s switching at zero current maximum imited to 30 s switching at zero current maximum imited to 30 s switching at zero current maximum noload switching frequency at ACC 2001 th at DC 2000 th at AC-1 maximum at AC-3 maximum at AC-3 maximum at AC-3 maximum ype of voltage of the control supply voltage control supply voltage at AC at 50 Hz rated value at 60 Hz	 up to 500 V for current peak value n=30 rated value 	90 000 VA	
value short-time withstand current in cold operating state up to 40 °C • limited to 15 switching at zero current maximum • limited to 15 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 80 s switching at zero current maximum no-load awtriching frequency • at ACC • at 50 C operating frequency • at ACC-1 maximum • at ACC-2 maximum • at ACC-3 maximum • at ACC-4 maximum • at ACC-4 maximum • at ACC-4 maximum • at ACC-3 maximum • at ACC-4 maximum • at ACC-6 maximum • at ACC-7 maximum • at ACC-8 maximum • at ACC-8 maximum • at ACC-8 maximum • at ACC-9 maximum • at ACC-9 maximum • at ACC-9 maximum • at ACC-1 rated value • at 60 Hz	 up to 690 V for current peak value n=30 rated value 	120 000 VA	
short-time withstand current in cold operating state up to 49 °C imited to 1 s avicthing at zero current maximum imited to 5 s avicthing at zero current maximum imited to 50 s switching at zero current maximum imited to 80 s switching at zero current maximum imited to 80 s switching at zero current maximum imited to 80 s switching at zero current maximum no-load switching frequency at ACC at DC 2001 th 2000 th	·	110 000 VA	
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		out A, use minimum cross-section acc. to AC-1 rated value	
• al DC operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at BO Hz		2 000 1/h	
operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum 750 1/h at AC-4 maximum 750 1/h at AC-4 maximum 750 1/h at AC-4 maximum 130 1/h Control circuit Control type of voltage of the control supply voltage control supply voltage at AC at 50 Hz rated value 380 420 V at 60 Hz rated value 380 420 V control supply voltage at DC at 50 Hz rated value coperating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value operating range factor control supply voltage rated value of magnet coil at AC at 50 Hz at 50 Hz at 60 Hz apparent holding power of magnet coil at AC at 60 Hz at 60 Hz apparent holding power of magnet coil at AC at 60 Hz apparent holding power of magnet coil at AC at 60 Hz apparent holding power of magnet coil at AC at 60 Hz apparent holding power of magnet coil at AC at 60 Hz apparent holding power of magnet coil at AC at 60 Hz apparent holding power of magnet coil at AC at 60 Hz apparent holding power of magnet coil at AC at 60 Hz apparent holding power of magnet coil at AC at 60 Hz apparent holding power of magnet coil at AC at 60 Hz apparent holding power of magnet coil at AC at 60 Hz at 60 Hz apparent holding power of magnet coil at AC at 60 Hz		· · · ·	
* at AC-1 maximum		2 000 1/11	
** at AC-2 maximum 750 1/h ** at AC-3 maximum 750 1/h ** at AC-3 maximum 750 1/h ** at AC-4 maximum 750 1/h ** at AC-4 maximum 750 1/h ** at AC-4 maximum 130 1/h **Control circulif Control Supply voltage of the control supply voltage at AC ** at 50 Hz rated value 380 420 V ** at 80 Hz rated value 380 420 V ** orated value 380 420 V ** operating range factor control supply voltage rated value of magnet coll at DC ** initial value		900 4/b	
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** at AC-3e maximum			
■ at AC-4 maximum Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC ■ at 50 Hz rated value ■ at 60 Hz rated value ■ at 60 Hz rated value Sa0 420 V control supply voltage at DC ■ rated value operating range factor control supply voltage rated value of magnet coil at DC ● initial value			
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control supply voltage at DC			
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initial value intil-scale value operating range factor control supply voltage rated value of magnet coil at AC at 50 Hz at 60 Hz design of the surge suppressor apparent pick-up power of magnet coil at AC at 50 Hz at 60 Hz at 50 Hz at 60 Hz at 50 Hz at 50 Hz at 60 Hz at 50 Hz at 50 Hz at 60 Hz at 50 Hz at 50 Hz at 60 Hz at 60 Hz at 50 Hz at 60 Hz at 50 Hz at 60 Hz at 60 Hz at 50 Hz at 60 Hz at 50 Hz at 60 Hz at 50 Hz at 50 Hz at 60 Hz at 50 Hz at 60 Hz			
• full-scale value operating range factor control supply voltage rated value of magnet coil at AC	_	0.8	
operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz • at 60 Hz binductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz binductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 50 Hz • at 60 Hz coil • at 60 Hz			
value of magnet coil at AC		1.1	
■ at 60 Hz design of the surge suppressor apparent pick-up power of magnet coil at AC ■ at 50 Hz ■ at 60 Hz			
design of the surge suppressor apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz 0.9 • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz closing power of magnet coil at DC tholding power of magnet coil at DC closing delay • at AC • at DC • at DC arcing time control version of the switch operating mechanism viii varistor 300 VA 300 VA 300 VA 300 VA 0.9 5.8 VA 6.8 VA 6.8 VA 6.8 VA 6.8 VA 6.8 VA 6.9	● at 50 Hz	0.8 1.1	
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inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz • at 60 Hz closing power of magnet coil at DC holding power of magnet coil at DC closing delay • at AC • at DC opening delay • at AC • at DC string time opening delay string time	• at 50 Hz	5.8 VA	
coil • at 50 Hz 0.8 • at 60 Hz 0.8 closing power of magnet coil at DC 360 W holding power of magnet coil at DC 5.2 W closing delay • at AC	• at 60 Hz	5.8 VA	
coil • at 50 Hz 0.8 • at 60 Hz 0.8 closing power of magnet coil at DC 360 W holding power of magnet coil at DC 5.2 W closing delay • at AC	inductive power factor with the holding power of the		
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arcing time 10 15 ms control version of the switch operating mechanism Standard A1 - A2			
control version of the switch operating mechanism Standard A1 - A2			
Auxiliary circuit		Standard A1 - A2	
	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 175 V rated value at 125 V rated value	0.9 A	
at 220 V rated value	0.3 A	
at 600 V rated value	0.3 A	
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)	
UL/CSA ratings	Tradity Switching per 100 million (17 V, 1 mA)	
full-load current (FLA) for 3-phase AC motor	400 A	
• at 480 V rated value	180 A	
• at 600 V rated value	192 A	
yielded mechanical performance [hp]		
• for single-phase AC motor	20 ha	
— at 230 V rated value	30 hp	
• for 3-phase AC motor	00 hr	
— 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, 50 kA), BS88: 315 A (415	
a for abort aircuit anatostica of the annulling and the	V, 50 kA)	
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)	
Installation/ mounting/ dimensions		
-	with vertical mounting surface ±/ 00° rotatable, with vertical mounting	
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		
with side-by-side mounting		
— forwards	20 mm	
— upwards	10 mm	
— downwards	10 mm	
40111114140		

— 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 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	
type of connectable conductor cross-sections	4 250 komil	
at AWG cables for main contacts connectable conductor cross-section for main	4 250 kcmil	
contacts		
stranded	25 120 mm²	
connectable conductor cross-section for auxiliary contacts		
solid or stranded	0.5 4 mm²	
finely stranded with core end processing	0.5 2.5 mm ²	
type of connectable conductor cross-sections	0.0 2.0 mm	
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)	
at AWG cables for auxiliary contacts	2x (20 16), 2x (18 14), 1x 12	
AWG number as coded connectable conductor cross	ZA (20 10), ZA (10 14), 1A 1Z	
section		
 for auxiliary contacts 	18 14	
Safety related data		
product function		
 mirror contact according to IEC 60947-4-1 	Yes	
 positively driven operation according to IEC 60947- 5-1 	No	
B10 value with high demand rate according to SN 31920	1 000 000	
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	
suitability for use		
safety-related switching OFF	Yes	
Certificates/ approvals		
General Product Approval		



Confirmation





<u>KC</u>



EMC Functional Safety/Safety of	Declaration of Conformity	Test Certificates
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Type Examination
Certificate





Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping

other











Confirmation

other Railway

<u>Miscellaneous</u> <u>Confirmation</u> <u>Miscellaneous</u> <u>Special Test Certificate</u>

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=3RT1056-6AV36

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1056-6AV36

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6AV36

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

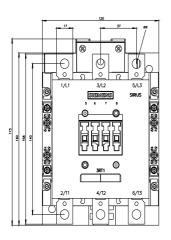
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1056-6AV36&lang=en

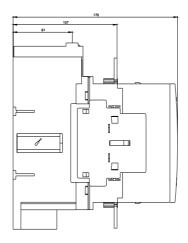
 $\label{lem:characteristics} \textbf{Characteristics}, \textbf{I}^{\textbf{2}}\textbf{t}, \textbf{Let-through current}$

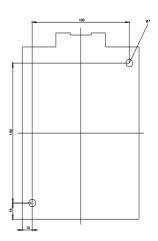
https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6AV36/char

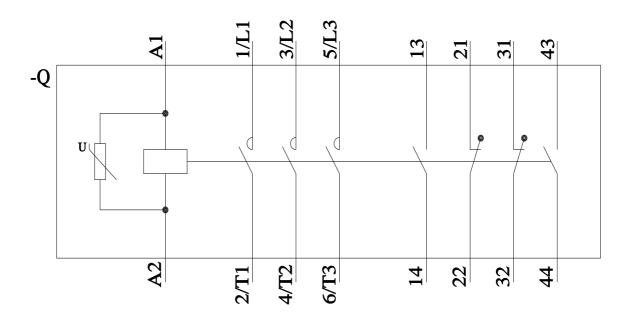
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1056-6AV36&objecttype=14&gridview=view1









last modified: 3/24/2022 🖸