SIEMENS

Data sheet

3RT2036-1XF40-0LA2



traction contactor, AC-3e/AC-3, 51 A, 22 kW / 400 V, 3-pole, 110 V DC, 0.7-1.25* Us, electronic drive, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S2

product brand name	SIRIUS
· ·	Power contactor
_ product designation design of the product	With extended operating range
product type designation	3RT2
General technical data	JRIZ
	00
size of contactor	S2
product extension	
function module for communication	No
auxiliary switch	Yes
power loss [W] for rated value of the current	40.11
at AC in hot operating state	12 W
at AC in hot operating state per pole	4 W
without load current share typical	1 W
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
of auxiliary circuit with degree of pollution 3 rated value	690 V
surge voltage resistance	
 of main circuit rated value 	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	7.7g / 5 ms, 4.5g / 10 ms
shock resistance with sine pulse	
• at DC	12g / 5 ms, 7g / 10 ms
mechanical service life (operating 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)	10/01/2014
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
during operation	-40 +70 °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	690 V
at AC-3e rated value maximum	690 V
operational current	
at AC-1 at 400 V at ambient temperature 40 °C rated	70 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	70 A
value	
 — up to 690 V at ambient temperature 60 °C rated value 	60 A
• at AC-2 at 400 V rated value	50 A
• at AC-3	0077
— at 400 V rated value	51 A
— at 500 V rated value	51 A
— at 690 V rated value	24 A
• at AC-3e	
- at 400 V rated value	51 A
— at 500 V rated value	51 A
— at 690 V rated value	24 A
at AC-4 at 400 V rated value	41 A
minimum cross-section in main circuit	
at maximum AC-1 rated value	25 mm²
at maximum No Protect value	25 mm ²
operational current for approx. 200000 operating cycles at	
AC-4	
• at 400 V rated value	24 A
at 690 V rated value	20 A
operational current	
at 1 current path at DC-1	
— at 24 V rated value	55 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	55 A
— at 110 V rated value	45 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
 with 3 current paths in series at DC-1 	
— at 24 V rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	45 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	35 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.1 A
— at 600 V rated value	0.06 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	55 A
— at 110 V rated value	25 A
— at 220 V rated value	5 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A

— at 24 V rated value	55 A				
— at 110 V rated value	55 A				
— at 220 V rated value	25 A				
— at 440 V rated value	0.6 A				
— at 600 V rated value	0.35 A				
operating power					
 at AC-2 at 400 V rated value 	22 kW				
• at AC-3					
— at 230 V rated value	15 kW				
— at 400 V rated value	22 kW				
— at 500 V rated value	30 kW				
— at 690 V rated value	22 kW				
• at AC-3e					
— at 230 V rated value	15 kW				
— at 400 V rated value	22 kW				
— at 500 V rated value	30 kW				
— at 690 V rated value	22 kW				
operating power for approx. 200000 operating cycles at AC-					
4					
at 400 V rated value	12.6 kW				
at 690 V rated value	18.2 kW				
short-time withstand current in cold operating state up to 40 °C					
 limited to 1 s switching at zero current maximum 	937 A; Use minimum cross-section acc. to AC-1 rated value				
 limited to 5 s switching at zero current maximum 	697 A; Use minimum cross-section acc. to AC-1 rated value				
 limited to 10 s switching at zero current maximum 	468 A; Use minimum cross-section acc. to AC-1 rated value				
 limited to 30 s switching at zero current maximum 	282 A; Use minimum cross-section acc. to AC-1 rated value				
 limited to 60 s switching at zero current maximum 	229 A; Use minimum cross-section acc. to AC-1 rated value				
no-load switching frequency					
● at DC	1 500 1/h				
operating frequency					
 at AC-2 at AC-3e maximum 	600 1/h				
• at AC-4 maximum	250 1/h				
Ratings for railway applications					
thermal current (Ith) up to 690 V					
thermal current (Ith) up to 690 V • up to 40 °C according to IEC 60077 rated value	70 A				
	70 A 55 A				
• up to 40 °C according to IEC 60077 rated value					
 up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value 					
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control	55 A				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage	55 A DC				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage	55 A DC				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC	55 A DC DC				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC	55 A DC DC				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC	55 A DC DC 110 V				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC orated value operating range factor control supply voltage rated value of magnet coil at DC oinitial value	55 A DC DC 110 V 0.7				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC orated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value	55 A DC DC 110 V 0.7 1.25				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value • full-scale value design of the surge suppressor	55 A DC DC 110 V 0.7 1.25 with varistor				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC	55 A DC DC 110 V 0.7 1.25 With varistor 1.5 A				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC orated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor inrush current peak duration of inrush current peak locked-rotor current mean value	55 A DC DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC	55 A DC DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A				
 up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor inrush current peak duration of inrush current peak locked-rotor current mean value 	55 A DC DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A				
 up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor inrush current peak duration of inrush current peak locked-rotor current mean value locked-rotor current mean value 	55 A DC DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A 230 ms				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor	55 A DC DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A 230 ms 12 mA 23 W				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor	55 A DC DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A 230 ms 12 mA				
up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor	55 A DC DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A 230 ms 12 mA 23 W 1 W				
 up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor inrush current peak duration of inrush current peak locked-rotor current mean value locked-rotor current peak duration of locked-rotor current holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay at DC 	55 A DC DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A 230 ms 12 mA 23 W				
 up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor inrush current peak locked-rotor current mean value locked-rotor current peak duration of locked-rotor current holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay at DC 	55 A DC DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A 230 ms 12 mA 23 W 1 W 35 110 ms				
 up to 40 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value Control circuit/ Control type of voltage type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor inrush current peak duration of inrush current peak locked-rotor current mean value locked-rotor current peak duration of locked-rotor current holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay at DC 	55 A DC DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A 230 ms 12 mA 23 W 1 W				

Auxiliary circuit	
number of NC contacts for auxiliary contacts	1
instantaneous contact	1
number of NO contacts for auxiliary contacts	1
instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
at 230 V rated value	10 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 40 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
JL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	52 A
at 400 V rated value	52 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	3 hp
— at 230 V rated value	10 hp
• for 3-phase AC motor	
— at 200/208 V rated value	15 hp
- at 220/230 V rated value	15 hp
— at 460/480 V rated value	40 hp
- at 575/600 V rated value	50 hp
contact rating of auxiliary contacts according to UL	A600 / P600
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: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80
man type of coordination in required	(413 V, 80 KA) (413 V, 100 KA), am. 80 A (690 V, 100 KA), B388. 123 A (413 V, 80 KA)
— with type of assignment 2 required	gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA)
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)
nstallation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and
	backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	114 mm
width	55 mm
depth	130 mm
required spacing	
 with side-by-side mounting 	
— forwards	10 mm

— downwards	10 mm			
— at the side	0 mm			
 for grounded parts 				
— forwards	10 mm			
— upwards	10 mm			
— at the side	6 mm			
— downwards	10 mm			
 for live parts 				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	6 mm			
Connections/ Terminals				
type of electrical connection				
for main current circuit	screw-type terminals			
 for auxiliary and control circuit 	screw-type terminals			
 at contactor for auxiliary contacts 	Screw-type terminals			
 of magnet coil 	Screw-type terminals			
type of connectable conductor cross-sections for main contacts				
solid or stranded	2x (1 35 mm²), 1x (1 50 mm²)			
 finely stranded with core end processing 	2x (1 25 mm²), 1x (1 35 mm²)			
type of connectable conductor cross-sections				
for auxiliary contacts				
solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)			
 finely stranded with core end processing for AWG cables for auxiliary contacts 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (20 16), 2x (18 14)			
AWG number as coded connectable conductor cross	ZX (20 10), ZX (10 14)			
section				
 for main contacts 	18 1			
for auxiliary contacts	20 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			
proportion of dangerous failures				
 with low demand rate according to SN 31920 	40 %			
 with high demand rate according to SN 31920 	73 %			
failure rate [FIT] with low demand rate according to SN 31920	100 FIT			
T1 value for proof test interval or service life according to IEC	20 a			
61508				
protection class IP on the front according to IEC 60529	IP20			
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front			
Communication/ Protocol				
Communication/ Protocol product function bus communication	No			
	No			
product function bus communication Certificates/ approvals	No			
product function bus communication	No			
product function bus communication Certificates/ approvals				
product function bus communication Certificates/ approvals General Product Approval				
product function bus communication Certificates/ approvals General Product Approval Confirmation Confirmatio				
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Marine / Shipping					
ABS	BUREAU VERITAS	Lloyd's Register urs	PRS	RINA	KMRS RMRS
other	Railway			Environment	
<u>Confirmation</u>	Special Test Certific- ate	<u>Type Test Certific-</u> ates/Test Report	Vibration and Shock	Environmental Con- firmations	

Further information

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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=3RT2036-1XF40-0LA2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2036-1XF40-0LA2

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1XF40-0LA2

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

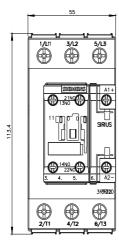
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-1XF40-0LA2&lang=en

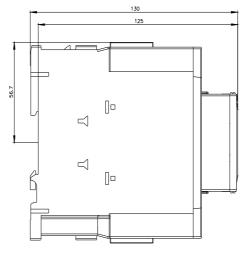
Characteristic: Tripping characteristics, I²t, Let-through current

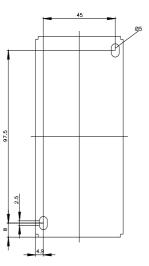
https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1XF40-0LA2/char

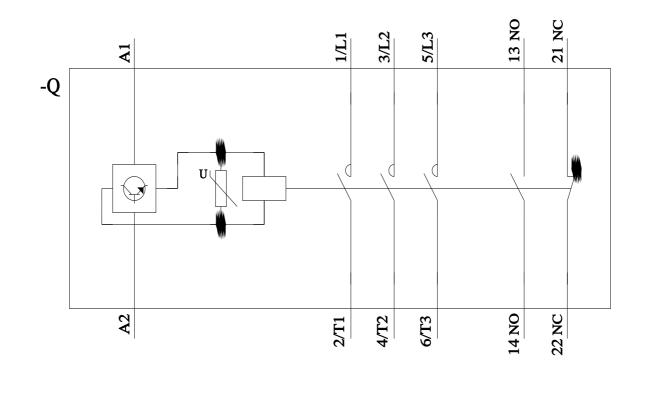
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2036-1XF40-0LA2&objecttype=14&gridview=view1









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