3RT2036-3XF40-0LA2

Data sheet



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, main circuit: screw terminal, control and auxiliary circuit: spring-loaded terminal, size: S2

product brand name	SIRIUS	
product designation	Power contactor	
design of the product	With extended operating range	
product type designation	3RT2	
General technical data		
size of contactor	S2	
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 	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		

0101110

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 value 	70 A
— 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	
— 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 Ith rated 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
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— 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		
up to 40 °C according to IEC 60077 rated value	70 A	
up to 70 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value	55 A	
Control circuit/ Control	33 A	
Control circuit/ Control		
	DO.	
type of voltage	DC	
type of voltage of the control supply voltage	DC DC	
type of voltage of the control supply voltage control supply voltage at DC	DC	
type of voltage of the control supply voltage control supply voltage at DC • rated value		
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	DC 110 V	
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	DC 110 V 0.7	
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	DC 110 V 0.7 1.25	
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	DC 110 V 0.7	
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	DC 110 V 0.7 1.25	
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	DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs	
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	DC 110 V 0.7 1.25 with varistor 1.5 A	
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	DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs	
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	DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A	
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	DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A	
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	DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A 230 ms	
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	DC 110 V 0.7 1.25 with varistor 1.5 A 50 μs 0.45 A 0.8 A 230 ms 12 mA	
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	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	
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	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	
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	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	
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	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	
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 opening delay	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 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	
UL/CSA ratings		
full-load current (FLA) for 3-phase AC motor	F0.A	
at 480 V rated value at 600 V rated value	52 A	
at 600 V rated value Violed machanical performance [ha]	52 A	
yielded mechanical performance [hp]		
• for single-phase AC motor	3 hn	
— at 110/120 V rated value — at 230 V rated value	3 hp	
for 3-phase AC motor	10 hp	
— 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 450/460 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 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)	
Installation/ 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	40	
— forwards — upwards	10 mm	
	10 mm	

	40
— 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 	spring-loaded terminals
at contactor for auxiliary contacts	Spring-type terminals
of magnet coil	Spring-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 2.5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²)
finely stranded without core end processing	2x (0.5 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 14)
AWG number as coded connectable conductor cross 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 61508	20 a
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	
product function bus communication	No
Certificates/ approvals	

General Product Approval



Confirmation





<u>KC</u>



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





Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping













other	Railway		Environment
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Confirmation Vibration and Shock Type Test Certificates/Test Report Special Test Report Spec

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=3RT2036-3XF40-0LA2

Cax online generator

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

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

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

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

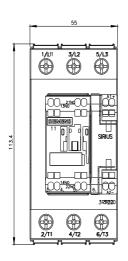
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-3XF40-0LA2&lang=en

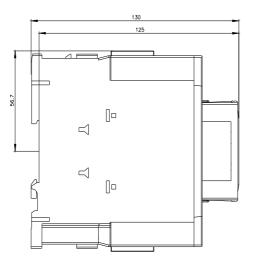
Characteristic: Tripping characteristics, I2t, Let-through current

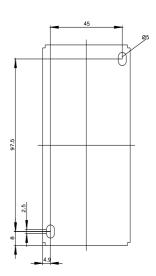
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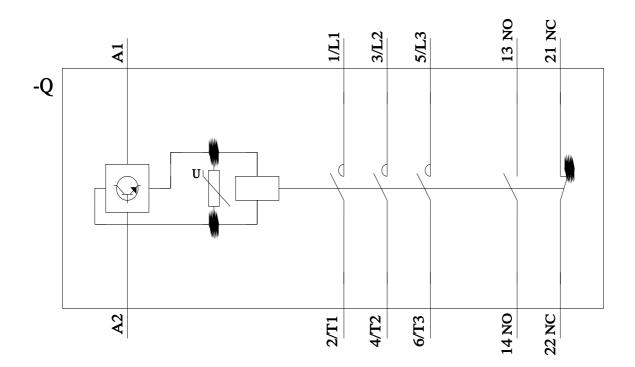
Further characteristics (e.g. electrical endurance, switching frequency)

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









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