3RT2024-4XJ40-0LA2

Data sheet



traction contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 72 V DC, 0.7-1.25* Us, electronic drive, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, ring cable lug connection, size: S0

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	S0
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 	1.5 W
 at AC in hot operating state per pole 	0.5 W
without load current share typical	1.6 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	10g / 5 ms, 7,5g / 10 ms
shock resistance with sine pulse	
• at DC	15g / 5 ms, 10g / 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)	10/01/2009
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	40 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	40 A
— up to 690 V at ambient temperature 60 °C rated value	35 A
at AC-2 at 400 V rated value	12 A
• at AC-3	
— at 400 V rated value	12 A
— at 500 V rated value	12 A
— at 690 V rated value	9 A
• at AC-3e	
— at 400 V rated value	12 A
— at 500 V rated value	12 A
— at 690 V rated value	9 A
• at AC-4 at 400 V rated value	12.5 A
minimum cross-section in main circuit	
at maximum AC-1 rated value	10 mm²
at maximum No-1 rated value at maximum Ith rated value	10 mm²
operational current for approx. 200000 operating cycles at	10 11111
AC-4	
at 400 V rated value	5.5 A
at 690 V rated value	5.5 A
operational current	
at 1 current path at DC-1	
— at 24 V rated value	35 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	35 A
— at 110 V rated value	35 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	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 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	20 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
	0.09 A
— at 440 V rated value	
— at 440 V rated value — at 600 V rated value	0.06 A
 at 440 V rated value at 600 V rated value with 2 current paths in series at DC-3 at DC-5 	0.06 A
 at 440 V rated value at 600 V rated value with 2 current paths in series at DC-3 at DC-5 at 24 V rated value 	0.06 A 35 A
 at 440 V rated value at 600 V rated value with 2 current paths in series at DC-3 at DC-5 at 24 V rated value at 110 V rated value 	0.06 A 35 A 15 A
 at 440 V rated value at 600 V rated value with 2 current paths in series at DC-3 at DC-5 at 24 V rated value at 110 V rated value at 220 V rated value 	0.06 A 35 A 15 A 3 A
 at 440 V rated value at 600 V rated value with 2 current paths in series at DC-3 at DC-5 at 24 V rated value at 110 V rated value 	0.06 A 35 A 15 A

— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
operating power	
 at AC-2 at 400 V rated value 	5.5 kW
• at AC-3	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	7.5 kW
• at AC-3e	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	7.5 kW
operating power for approx. 200000 operating cycles at AC-	
4	
• at 400 V rated value	2.6 kW
• at 690 V rated value	4.6 kW
short-time withstand current in cold operating state up to 40 °C	
• limited to 1 s switching at zero current maximum	210 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	210 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	170 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	126 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 60 s switching at zero current maximum	105 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-1 maximum	1 000 1/h
• at AC-2 maximum	1 000 1/h
• at AC-3 maximum	1 000 1/h
at AC-3e maximum	1 000 1/h
at AC-2 at AC-3e maximum	1 000 1/h
• at AC-4 maximum	300 1/h
Ratings for railway applications	300 1/11
thermal current (Ith) up to 690 V	40.4
up to 40 °C according to IEC 60077 rated value	40 A
up to 70 °C according to IEC 60077 rated value	30 A
Control circuit/ Control	
type of voltage	DC
type of voltage of the control supply voltage	DC
control supply voltage at DC	
rated value	72 V
operating range factor control supply voltage rated value of magnet coil at DC	
initial value	0.7
full-scale value	1.25
design of the surge suppressor	with varistor
duration of locked-rotor current	180 ms
closing power of magnet coil at DC	13.2 W
holding power of magnet coil at DC	1.3 W
closing delay	
• at DC	50 75 ms
opening delay	
• at DC	30 50 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
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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	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
UL/CSA ratings	U.IA
full-load current (FLA) for 3-phase AC motor	
	11 A
at 480 V rated value	
• at 600 V rated value	11 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	1 hp
— at 230 V rated value	2 hp
• for 3-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	7.5 hp
— at 575/600 V rated value	10 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
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: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)
 — with type of assignment 2 required 	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)
• for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	
mountainer difficulties	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
mounting position	backward by +/- 22.5° on vertical mounting surface
mounting position fastening method	backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
mounting position fastening method • side-by-side mounting	backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes
mounting position fastening method • side-by-side mounting height	backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 91 mm
mounting position fastening method • side-by-side mounting height width depth	backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 91 mm 45 mm
mounting position fastening method • side-by-side mounting height width depth required spacing	backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 91 mm 45 mm
mounting position fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting	backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 91 mm 45 mm 107 mm
mounting position fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards	backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 91 mm 45 mm 107 mm
mounting position fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards — upwards	backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 91 mm 45 mm 107 mm
mounting position fastening method • side-by-side mounting height width depth required spacing • with side-by-side mounting — forwards	backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes 91 mm 45 mm 107 mm

• for grounded parts 10 mm - forwards - upwards 10 mm — at the side 6 mm - downwards 10 mm • for live parts - forwards 10 mm - upwards 10 mm 10 mm - downwards - at the side 6 mm Connections/ Terminals type of electrical connection • for main current circuit Ring cable lug connection • for auxiliary and control circuit ring terminal lug connection • at contactor for auxiliary contacts Ring cable lug connection • of magnet coil Ring cable lug connection 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 450 000 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

General Product Approval

product function bus communication

Communication/ Protocol



61508

Confirmation

protection class IP on the front according to IEC 60529





<u>KC</u>



Functional

EMC Safety/Safety of Machinery

Declaration of Conformity

Test Certificates

IP00

No



Type Examination Certificate





Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping other Railway Dangerous Good



Confirmation



Vibration and Shock

Type Test Certificates/Test Report <u>Transport Information</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=3RT2024-4XJ40-0LA2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2024-4XJ40-0LA2

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-4XJ40-0LA2

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

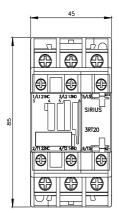
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2024-4XJ40-0LA2&lang=en

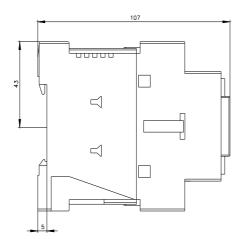
Characteristic: Tripping characteristics, I²t, Let-through current

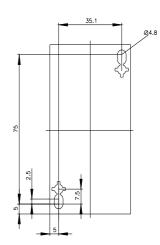
https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-4XJ40-0LA2/cha

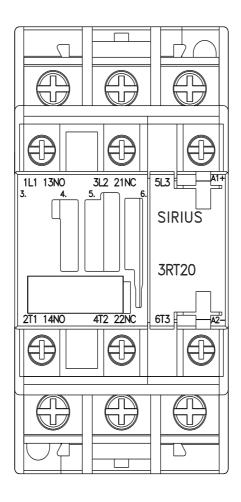
Further characteristics (e.g. electrical endurance, switching frequency)

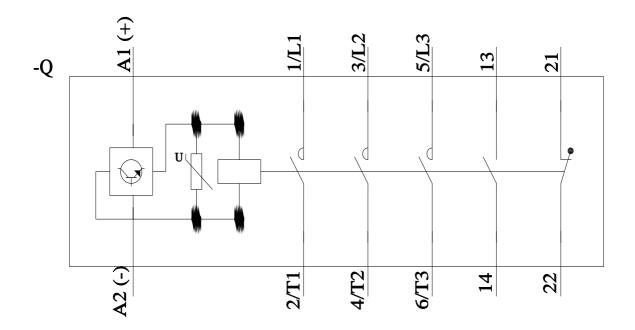
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2024-4XJ40-0LA2&objecttype=14&gridview=view1











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