3RT2025-1XF40-0LA2

Data sheet



traction contactor, AC-3e/AC-3, 17 A, 7.5 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: 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 per pole	0.9 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-3 rated value maximum at AC-3e rated value maximum	690 V
• at AC-se rated value maximum operational current	000 V
at AC-1 at 400 V at ambient temperature 40 °C rated	40 A
value	70 /
• 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	35 A
value	30 A
• at AC-2 at 400 V rated value	17 A
• at AC-3	
— at 400 V rated value	17 A
— at 500 V rated value	17 A
— at 690 V rated value	13 A
• at AC-3e	
— at 400 V rated value	17 A
— at 500 V rated value	17 A
— at 690 V rated value	13 A
at AC-4 at 400 V rated value	15.5 A
minimum cross-section in main circuit	
• at maximum AC-1 rated value	10 mm²
at maximum Ith rated value	10 mm²
operational current for approx. 200000 operating cycles at	
AC-4	77 /
at 400 V rated value	7.7 A
at 690 V rated value	7.7 A
operational current	
• at 1 current path at DC-1	05.4
— 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 ot 24 V reted value.	25 A
— 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	05.4
— 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	00.4
— at 24 V rated value	20 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 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	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
• with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	35 A
— at 110 V rated value	35 A

at 220 V rated value	10 Λ
— 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	7.5 kW
• at AC-3	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	11 kW
• at AC-3e	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	11 kW
operating power for approx. 200000 operating cycles at AC-	
• at 400 V rated value	3.5 kW
at 690 V rated value	6 kW
short-time withstand current in cold operating state up to 40 °C	
 limited to 1 s switching at zero current maximum 	225 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 5 s switching at zero current maximum	225 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	189 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	140 A; Use minimum cross-section acc. to AC-1 rated value
limited to 60 s switching at zero current maximum	115 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	
thermal current (Ith) up to 690 V	
up to 40 °C according to IEC 60077 rated value	40 A
up to 70 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value	30 A
Control circuit/ Control	30 A
	DC .
type of voltage	DC
type of voltage of the control supply voltage	DC
control supply voltage at DC	440.1/
• rated value	110 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
inrush current peak	15 A
duration of inrush current peak	30 µs
locked-rotor current mean value	0.13 A
locked-rotor current peak	0.19 A
duration of locked-rotor current	180 ms
duration of locked-rotor current	
holding current mean value	19 mA
	19 mA 13.2 W
holding current mean value	
holding current mean value closing power of magnet coil at DC	13.2 W
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC	13.2 W
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay	13.2 W 1.3 W

arcing time	10 10 ms
arcing time control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	Glandalu A I - Az
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 III (CSA ratings)	0.1 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor • at 480 V rated value	14 A
at 600 V rated value	17 A
yielded mechanical performance [hp]	17.4
• for single-phase AC motor	
— at 110/120 V rated value	1 hp
— at 230 V rated value	3 hp
• for 3-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	5 hp
— at 460/480 V rated value	10 hp
— at 575/600 V rated value	15 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	
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	85 mm
width	45 mm
depth	107 mm
required spacing	
• with side-by-side mounting	
— forwards	10 mm

— forwards — upwards	10 mm 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	2x (1 2.5 mm²), 2x (2.5 10 mm²)
 solid or stranded 	2x (1 2.5 mm²), 2x (2.5 10 mm²)
finely stranded with core end processing	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 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 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 16), 2x (18 14)
AWG number as coded connectable conductor cross section	
	16 8
for main contacts	10 0
for main contacts for auxiliary contacts	20 14
for auxiliary contacts	
for auxiliary contacts Safety related data	
• for auxiliary contacts Safety related data product function	20 14
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1	20 14 Yes
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1	20 14 Yes No
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 B10 value with high demand rate according to SN 31920 proportion of dangerous failures with low demand rate according to SN 31920	20 14 Yes No 450 000 40 %
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 B10 value with high demand rate according to SN 31920 proportion of dangerous failures	20 14 Yes No 450 000
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 B10 value with high demand rate according to SN 31920 proportion of dangerous failures with low demand rate according to SN 31920	20 14 Yes No 450 000 40 %
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 B10 value with high demand rate according to SN 31920 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920	20 14 Yes No 450 000 40 % 73 %
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 B10 value with high demand rate according to SN 31920 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to IEC	20 14 Yes No 450 000 40 % 73 % 100 FIT
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 B10 value with high demand rate according to SN 31920 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to IEC 61508	Yes No 450 000 40 % 73 % 100 FIT 20 a
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 B10 value with high demand rate according to SN 31920 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to IEC 61508 protection class IP on the front according to IEC 60529	Yes No 450 000 40 % 73 % 100 FIT 20 a
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 B10 value with high demand rate according to SN 31920 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to IEC 61508 protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529	Yes No 450 000 40 % 73 % 100 FIT 20 a
for auxiliary contacts Safety related data product function mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 B10 value with high demand rate according to SN 31920 proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to IEC 61508 protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529 Communication/ Protocol	Yes No 450 000 40 % 73 % 100 FIT 20 a IP20 finger-safe, for vertical contact from the front

General Product Approva



Confirmation





<u>KC</u>





Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping













other

Railway

Dangerous Good

Confirmation



Type Test Certificates/Test Report Vibration and Shock

Special Test Certificate

Transport Information

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=3RT2025-1XF40-0LA2

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2025-1XF40-0LA2}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-1XF40-0LA2

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

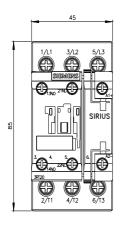
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2025-1XF40-0LA2&lang=en

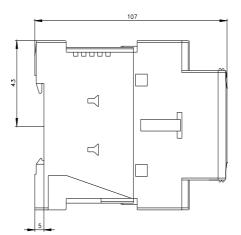
Characteristic: Tripping characteristics, I2t, Let-through current

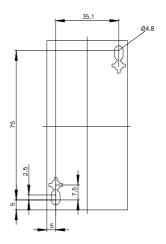
https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-1XF40-0LA2/char

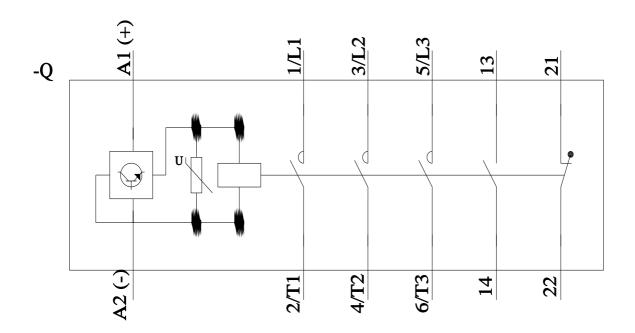
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2025-1XF40-0LA2&objecttype=14&gridview=view1









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