



Traction contactor, AC-3 16 A, 7.5 kW / 400 V 110 V DC 0.7-1.25* Us, with varistor integrated, 3-pole, Size S00 Spring-type terminals

product brand name	SIRIUS
product designation	Contactor
design of the product	With extended operating range
product type designation	3RT2
General technical data	
size of contactor	S00
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	6.6 W
• at AC in hot operating state per pole	2.2 W
• without load current share typical	4 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 safe isolation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	7.3g / 5 ms, 4.7g / 10 ms
shock resistance with sine pulse	
• at DC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (switching cycles)	
• of contactor typical	30 000 000
• 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 value	22 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 V at ambient temperature 60 °C rated value	20 A
• at AC-2 at 400 V rated value	16 A
• at AC-3	
— at 400 V rated value	16 A
— at 500 V rated value	12.4 A
— at 690 V rated value	8.9 A
• at AC-3e	
— at 400 V rated value	16 A
— at 500 V rated value	12.4 A
— at 690 V rated value	8.9 A
• at AC-4 at 400 V rated value	11.5 A
minimum cross-section in main circuit	
• at maximum AC-1 rated value	4 mm ²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	5.5 A
• at 690 V rated value	4.4 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	7.5 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	7.5 kW
operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	2.5 kW
• at 690 V rated value	3.5 kW
short-time withstand current in cold operating state up to 40 °C	
• limited to 1 s switching at zero current maximum	300 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 5 s switching at zero current maximum	169 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 10 s switching at zero current maximum	128 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	92 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum	74 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	750 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	

type of voltage	DC
type of voltage of the control supply voltage	DC
control supply voltage at DC • rated value	110 V
operating range factor control supply voltage rated value of magnet coil at DC • initial value • full-scale value	0.7 1.25
design of the surge suppressor	with varistor
closing power of magnet coil at DC	13 W
holding power of magnet coil at DC	4 W
closing delay • at DC	25 ... 130 ms
opening delay • at DC	7 ... 20 ms
arcing time	10 ... 15 ms
control version of the switch operating mechanism	E1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts	1
operational current at AC-12 maximum	10 A
operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value	10 A 3 A 2 A 1 A
operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at DC-13 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value	10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value	14 A 11 A
yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value	1 hp 2 hp 3 hp 5 hp 10 hp 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: 50A (690V,100kA), aM: 25A (690V,100kA), BS88: 50A (415V,80kA)

- with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)
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 standard mounting rail according to DIN EN 60715
<ul style="list-style-type: none"> ● side-by-side mounting 	Yes
height	70 mm
width	45 mm
depth	121 mm
required spacing	
<ul style="list-style-type: none"> ● with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side ● for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards ● for live parts <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side 	10 mm 10 mm 10 mm 0 mm 10 mm 10 mm 6 mm 10 mm 10 mm 10 mm 10 mm 6 mm

Connections/ Terminals

type of electrical connection	
<ul style="list-style-type: none"> ● for main current circuit ● for auxiliary and control circuit ● at contactor for auxiliary contacts ● of magnet coil 	spring-loaded terminals spring-loaded terminals Spring-type terminals Spring-type terminals
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> ● for main contacts <ul style="list-style-type: none"> — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing ● at AWG cables for main contacts 	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), 2x 4 mm ² 2x (0,5 ... 4 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (20 ... 12)
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> ● for auxiliary contacts <ul style="list-style-type: none"> — solid or stranded — finely stranded with core end processing — finely stranded without core end processing ● at AWG cables for auxiliary contacts 	2x (0,5 ... 4 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (20 ... 12)
AWG number as coded connectable conductor cross section	
<ul style="list-style-type: none"> ● for main contacts ● for auxiliary contacts 	20 ... 12 20 ... 12

Safety related data

product function	
<ul style="list-style-type: none"> ● mirror contact according to IEC 60947-4-1 ● positively driven operation according to IEC 60947-5-1 	Yes No
B10 value with high demand rate according to SN 31920	1 000 000
proportion of dangerous failures	
<ul style="list-style-type: none"> ● with low demand rate according to SN 31920 ● with high demand rate according to SN 31920 	40 % 73 %
failure rate [FIT] with low demand rate according to SN	100 FIT

31920	
T1 value for proof test interval or service life according to IEC 61508	20 y
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
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Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



EMC	Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates
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[Type Examination Certificate](#)



EG-Konf.



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

Marine / Shipping



Marine / Shipping	other	Railway
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[Confirmation](#)



[Confirmation](#)

[Special Test Certificate](#)

[Vibration and Shock](#)

Dangerous Good

[Transport Information](#)

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=3RT2018-2LF42-0LA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2018-2LF42-0LA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2018-2LF42-0LA0>

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

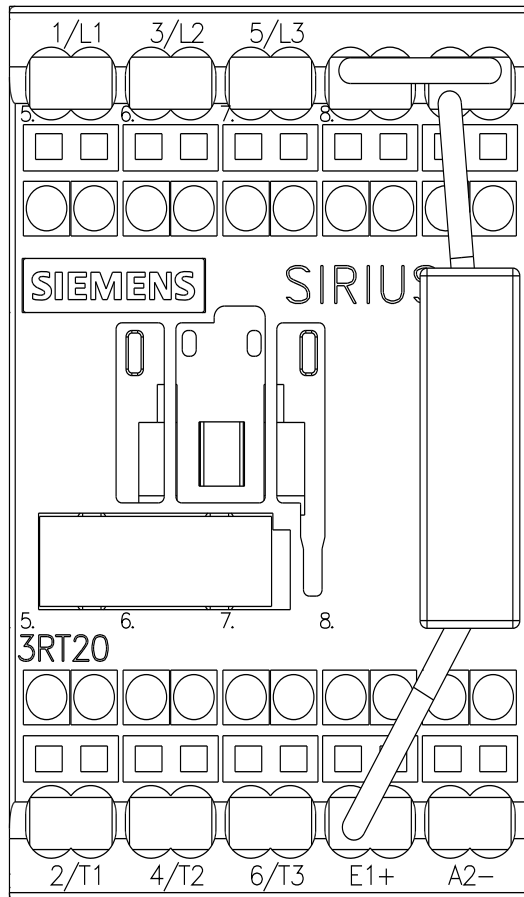
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2018-2LF42-0LA0&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2018-2LF42-0LA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mfb=3RT2018-2LF42-0LA0&objecttype=14&gridview=view1>



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