



power contactor, AC-3e/AC-3, 7 A, 3 kW / 400 V, 1 NO, 24 V DC 0.7-1.25*
US, with diode integrated, 3-pole, suitable for PLC outputs not expandable
with auxiliary switch

product brand name	SIRIUS
product designation	Coupling contactor
product type designation	3RT2

General technical data

size of contactor	S00
product extension	
• function module for communication	No
• auxiliary switch	No
power loss [W] for rated value of the current	
• at AC in hot operating state	0.6 W
• at AC in hot operating state per pole	0.2 W
• without load current share typical	2.8 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	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at DC	10,5g / 5 ms, 6,6g / 10 ms
mechanical service life (operating cycles)	
• of contactor typical	30 000 000
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	-25 ... +60 °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	18 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	18 A
— up to 690 V at ambient temperature 60 °C rated value	16 A
• at AC-3	
— at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
• at AC-3e	
— at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
• at AC-4 at 400 V rated value	6.5 A
• at AC-5a up to 690 V rated value	15.8 A
• at AC-5b up to 400 V rated value	5.8 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	4 A
— up to 400 V for current peak value n=20 rated value	4 A
— up to 500 V for current peak value n=20 rated value	3.8 A
— up to 690 V for current peak value n=20 rated value	3.6 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	2.7 A
— up to 400 V for current peak value n=30 rated value	2.7 A
— up to 500 V for current peak value n=30 rated value	2.5 A
— up to 690 V for current peak value n=30 rated value	2.4 A
minimum cross-section in main circuit at maximum AC-1 rated value	2.5 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	2.6 A
• at 690 V rated value	1.8 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	1.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.42 A
— at 600 V rated value	0.42 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	8.4 A
— at 220 V rated value	1.2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.5 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	15 A
— at 110 V rated value	15 A
— at 220 V rated value	15 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.7 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	15 A
• with 2 current paths in series at DC-3 at DC-5	

— at 24 V rated value — at 110 V rated value • with 3 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 — at 440 V rated value — at 600 V rated value	15 A 0.25 A 15 A 15 A 1.2 A 0.14 A 0.14 A
operating power	
• at AC-3 — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value • at AC-3e — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value	1.5 kW 3 kW 3 kW 4 kW 1.5 kW 3 kW 3 kW 4 kW
operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value • at 690 V rated value	1.15 kW 1.15 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value	1.5 kVA 2.7 kVA 3.3 kVA 4.3 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value	1 kVA 1.8 kVA 2.2 kVA 2.9 kVA
short-time withstand current in cold operating state up to 40 °C	
• limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum	120 A; Use minimum cross-section acc. to AC-1 rated value 86 A; Use minimum cross-section acc. to AC-1 rated value 67 A; Use minimum cross-section acc. to AC-1 rated value 52 A; Use minimum cross-section acc. to AC-1 rated value 43 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	10 000 1/h
operating frequency	
• at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3e maximum • at AC-4 maximum	1 000 1/h 750 1/h 750 1/h 750 1/h 250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	
• rated value	24 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	diode
closing power of magnet coil at DC	2.8 W
holding power of magnet coil at DC	2.8 W
closing delay	
• at DC	25 ... 130 ms
opening delay	
• at DC	38 ... 65 ms
arcing time	10 ... 15 ms

control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NO contacts for auxiliary contacts	1
instantaneous contact	
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
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	4.8 A
• at 600 V rated value	6.1 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	0.25 hp
— at 230 V rated value	0.75 hp
• for 3-phase AC motor	
— at 200/208 V rated value	1.5 hp
— at 220/230 V rated value	2 hp
— at 460/480 V rated value	3 hp
— at 575/600 V rated value	5 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
— with type of assignment 2 required	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (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	58 mm
width	45 mm
depth	73 mm
required spacing	
• with side-by-side mounting	
— forwards	10 mm
— upwards	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
- for auxiliary and control circuit
- at contactor for auxiliary contacts
- of magnet coil

screw-type terminals
screw-type terminals
Screw-type terminals
Screw-type terminals

type of connectable conductor cross-sections

- for main contacts
 - solid
 - solid or stranded
 - finely stranded with core end processing
- at AWG cables for main contacts

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²
2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²
2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
2x (20 ... 16), 2x (18 ... 14), 2x 12

connectable conductor cross-section for main contacts

- solid
- stranded
- finely stranded with core end processing

0.5 ... 4 mm²
0.5 ... 4 mm²
0.5 ... 2.5 mm²

connectable conductor cross-section for auxiliary contacts

- solid or stranded
- finely stranded with core end processing

0.5 ... 4 mm²
0.5 ... 2.5 mm²

type of connectable conductor cross-sections

- for auxiliary contacts
 - solid or stranded
 - finely stranded with core end processing
- at AWG cables for auxiliary contacts

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²
2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
2x (20 ... 16), 2x (18 ... 14), 2x 12

AWG number as coded connectable conductor cross section

- for main contacts
- for auxiliary contacts

20 ... 12
20 ... 12

Safety related data

product function

- mirror contact according to IEC 60947-4-1

No
1 000 000

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

40 %
73 %
100 FIT

failure rate [FIT] with low demand rate according to SN 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

suitability for use

- safety-related switching OFF

Yes

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](#)



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

Marine / Shipping



Marine / Shipping	other	Railway		Dangerous Good
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[Confirmation](#)



[Special Test Certificate](#)

[Vibration and Shock](#)

[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=3RT2015-1JB41>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-1JB41>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1JB41>

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

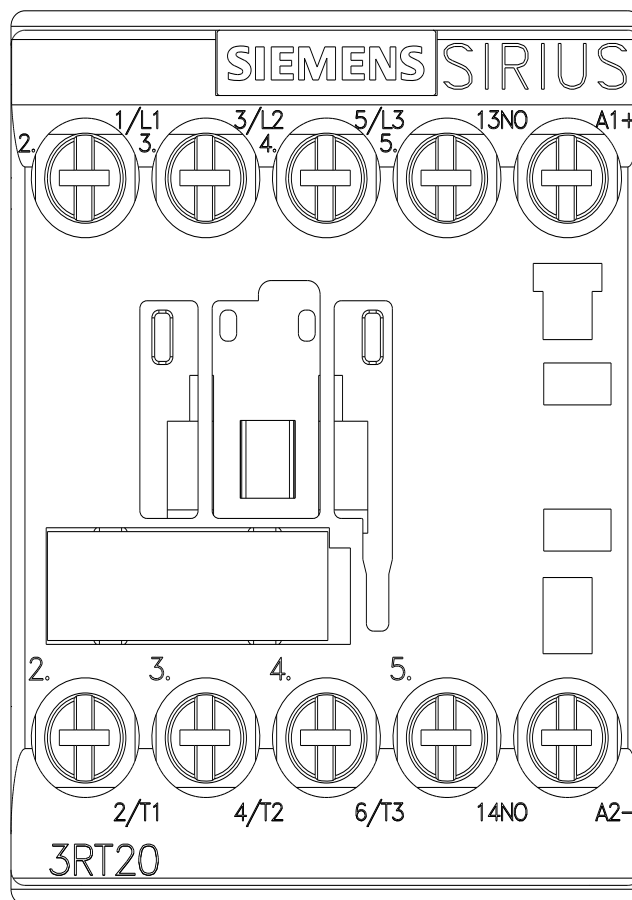
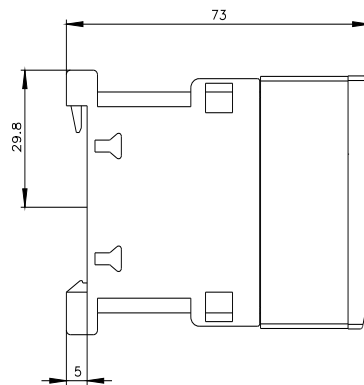
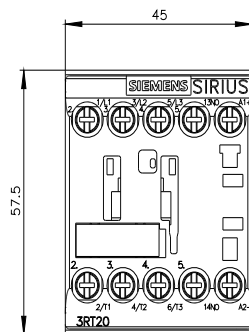
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2015-1JB41&lang=en

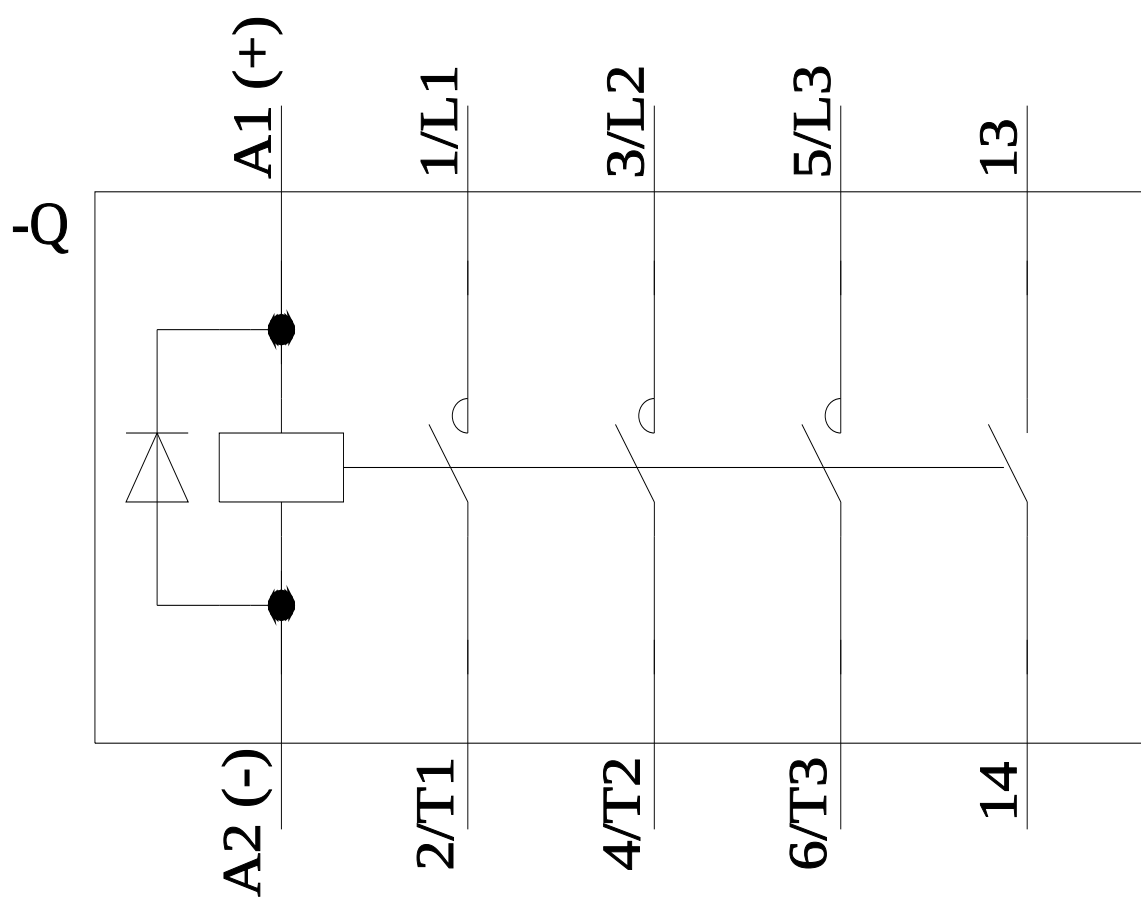
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1JB41/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2015-1JB41&objecttype=14&gridview=view1>





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