SIEMENS

Data sheet 3RT2015-1AF01



power contactor, AC-3e/AC-3, 7 A, 3 kW / 400 V, 3-pole, 110 V AC, 50/60 Hz, auxiliary contacts: 1 NO, screw terminal

size of contactor product extension • function module for communication • auxiliary switch • auxiliary switch • at AC in hot operating state per pole • at AC in hot operating state per pole • of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit rated value • of auxiliary switch sine pulse • at AC • of axiliary circuit rated value • of resistance with sine pulse • at AC • at AC • of axiliary circuit rated value • of resistance with sine pulse • at AC • at AC • of axiliary circuit rated value • of axiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor	product brand name	SIRIUS	
size of contactor product extension • function module for communication • suixlilary switch • auxililary switch • at AC in hot operating state • at AC in hot operating state per pole • without load current share typical • of amin circuit with degree of pollution 3 rated value • of an incircuit with degree of pollution 3 rated value • of an incircuit with degree of pollution 3 rated value • of auxililary circuit with degree of pollution 3 rated value • of auxililary circuit rated value • of auxililary switch block typical • of the contactor with added electronically optimized auxililary switch block typical • of the contactor with added auxililary switch block typical • of the contactor with added auxililary switch block typical • of the contactor with added auxililary switch block typical • of the contactor with added auxililary switch block typical • of the contactor with added auxililary switch block typical • of the contactor with added auxililary switch block typical • of the contactor with added auxililary switch block typical • of the contactor with ad	product designation	Power contactor	
size of contactor product extension • function module for communication • auxiliary switch • auxiliary switch • at AC in hot operating state per pole • at AC in hot operating state per pole • of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit rated value • of auxiliary switch sine pulse • at AC • of axiliary circuit rated value • of resistance with sine pulse • at AC • at AC • of axiliary circuit rated value • of resistance with sine pulse • at AC • at AC • of axiliary circuit rated value • of axiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor	product type designation	3RT2	
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• function module for communication • auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state per pole • without load current share typical • of main circuit with degree of pollution 3 rated value • of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit rated value • of auxiliary circuit rated value • of main contact saccording to EN 60947-1 shock resistance at rectangular impulse • at AC shock resistance with sine pulse • at AC shock resistance with sine pulse • at AC for contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical reference code according to EC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum	size of contactor	S00	
• auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole • without load current share typical insulation voltage • of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit rated value • of main circuit rated value • of auxiliary circuit rated value • of work of work of the correct value • of work of	product extension		
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of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value surge voltage resistance of main circuit rated value of auxiliary circuit rated value of the contact according to EN 60947-1 shock resistance at rectangular impulse of at AC of contactor with sine pulse of the contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typi	 without load current share typical 	4.2 W	
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of auxiliary circuit rated value maximum permissible voltage for safe isolation between coll and main contacts according to EN 60947-1 shock resistance at rectangular impulse	surge voltage resistance		
maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse • at AC shock resistance with sine pulse • at AC 10,5g / 5 ms, 4,2g / 10 ms mechanical service life (operating cycles) • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum 400 V	 of main circuit rated value 	6 kV	
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at AC shock resistance with sine pulse at AC at		400 V	
shock resistance with sine pulse • at AC mechanical service life (operating cycles) • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum	shock resistance at rectangular impulse		
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Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum 10/01/2009 2 000 m -25 +60 °C -55 +80 °C 10 % 95 %		10 000 000	
installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum 2 000 m -25 +60 °C -55 +80 °C 10 % 95 %	reference code according to IEC 81346-2	Q	
installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum 2 000 m -25 +60 °C -55 +80 °C 10 % 95 %	Substance Prohibitance (Date)	10/01/2009	
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◆ during operation ◆ during storage ◆ during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum -25 +60 °C -55 +80 °C 10 % 95 %	installation altitude at height above sea level maximum	2 000 m	
◆ during storage −55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum −55 +80 °C 10 % 95 %	ambient temperature		
relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum 10 % 95 %	during operation	-25 +60 °C	
relative humidity at 55 °C according to IEC 60068-2-30 95 % maximum	during storage	-55 +80 °C	
maximum	relative humidity minimum	10 %	
Main circuit	,	95 %	
	Main circuit		

number of poles for main current sircuit	2
number of poles for main current circuit number of NO contacts for main contacts	3
operating voltage	J
at AC-3 rated value maximum	690 V
at AC-3 rated value maximum at AC-3e rated value maximum	690 V
operational current	090 V
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 $^{\circ}\text{C}$ 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	T. J. A.
— 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 at AC-6a 	3.6 A
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 operational current for approx. 200000 operating	2.5 mm ²
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 60 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	45.4
— at 24 V rated value	15 A
— at 60 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 — at 600 V rated value	0.6 A 0.5 A
	0.5 A
 with 3 current paths in series at DC-1 at 24 V rated value 	15 A
— at 60 V rated value	15 A
at oo v ratou valuo	

at 110 V rated value	15 A
— at 110 V rated value	15 A
— at 220 V rated value	15 A
— at 440 V rated value— at 600 V rated value	0.9 A 0.7 A
	0.7 A
 at 1 current path at DC-3 at DC-5 — at 24 V rated value 	15 A
— at 60 V rated value	0.35 A
— at 110 V rated value	0.1 A
with 2 current paths in series at DC-3 at DC-5	U.TA
— at 24 V rated value	15 A
— at 60 V rated value	3.5 A
— at 110 V rated value	0.25 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	15 A
— at 60 V rated value	15 A
— at 110 V rated value	15 A
— at 220 V rated value	1.2 A
— at 440 V rated value	0.14 A
— at 600 V rated value	0.14 A
operating power	
• at AC-3	
— at 230 V rated value	1.5 kW
— at 400 V rated value	3 kW
— at 500 V rated value	3 kW
— at 690 V rated value	4 kW
• at AC-3e	
— at 230 V rated value	1.5 kW
— at 400 V rated value	3 kW
— at 500 V rated value	3 kW
— at 690 V rated value	4 kW
operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	1.15 kW
at 690 V rated value	1.15 kW
operating apparent power at AC-6a	1.10 KVV
• up to 230 V for current peak value n=20 rated value	1.5 kVA
• up to 400 V for current peak value n=20 rated value	2.7 kVA
• up to 500 V for current peak value n=20 rated value	3.3 kVA
• up to 690 V for current peak value n=20 rated value	4.3 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	1 kVA
 up to 400 V for current peak value n=30 rated value 	1.8 kVA
• up to 500 V for current peak value n=30 rated value	2.2 kVA
 up to 690 V for current peak value n=30 rated value 	2.9 kVA
short-time withstand current in cold operating state	
up to 40 °C	
 limited to 1 s switching at zero current maximum 	120 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 5 s switching at zero current maximum	86 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 10 s switching at zero current maximum	67 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 30 s switching at zero current maximum	52 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 60 s switching at zero current maximum	43 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	40,000,4/1-
• at AC	10 000 1/h
operating frequency	1 000 1/b
at AC-1 maximumat AC-2 maximum	1 000 1/h 750 1/h
at AC-3 maximumat AC-3e maximum	750 1/h 750 1/h
at AC-3e maximum at AC-4 maximum	250 1/h
	200 1/11
Control circuit/ Control	**
type of voltage of the control supply voltage	AC
control supply voltage at AC	440.
at 50 Hz rated value	110 V
at 60 Hz rated value	110 V

operating range factor control supply voltage rated	
value of magnet coil at AC	0.0 4.4
• at 50 Hz	0.8 1.1
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	0=1/4
• at 50 Hz	27 VA
• at 60 Hz	24.3 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.75
apparent holding power of magnet coil at AC	
• at 50 Hz	4.2 VA
• at 60 Hz	3.3 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
• at 60 Hz	0.25
	0.25
closing delay • at AC	9 35 ms
	J JJ III5
opening delay • at AC	4 15 ms
• at AC arcing time	4 15 ms 10 15 ms
3	10 15 ms Standard A1 - A2
control version of the switch operating mechanism	Standard AT - AZ
Auxiliary circuit	
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-12 maximum	10 A
at 230 V rated value	10 A
at 400 V rated value	3 A
at 500 V rated value at 500 V rated value	2 A
at 690 V rated value at 690 V rated value	1A
operational current at DC-12	T A
• at 24 V rated value	10 A
at 48 V rated value	6 A
at 40 V rated value at 60 V rated value	6 A
at 10 V rated value at 110 V rated value	3 A
at 115 V rated value at 125 V rated value	2 A
at 220 V rated value at 220 V rated value	1A
at 600 V rated value	0.15 A
operational current at DC-13	0.13 A
• at 24 V rated value	10 A
at 48 V rated value	2 A
at 40 V rated value at 60 V rated value	2 A
at 110 V rated value at 110 V rated value	1A
at 110 V rated value at 125 V rated value	0.9 A
at 123 V rated value 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	readily containing por roo minion (11 ty 1 milly)
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	4.8 A
at 400 V rated value at 600 V rated value	6.1 A
yielded mechanical performance [hp]	0.17
• 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	0.10 Hp
— 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 400/400 V rated value	5 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
	, 1000 / 10000
Short-circuit protection	

design of the fuse link

- for short-circuit protection of the main circuit
 - with type of coordination 1 required
 - with type of assignment 2 required

• for short-circuit protection of the auxiliary switch required

gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA) gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)

gG: 10 A (500 V, 1 kA)

	dimensions

mounting position fastening method

side-by-side mounting

height width depth

required spacing

• with side-by-side mounting

forwardsupwardsdownwardsat the side

for grounded parts

forwardsupwardsat the sidedownwards

for live partsforwards

upwardsdownwardsat the side

+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715

Yes 58 mm 45 mm 73 mm

10 mm 10 mm 10 mm

0 mm

10 mm 10 mm 6 mm 10 mm 10 mm

> 10 mm 6 mm

Connections/ Terminals

type of electrical connection

for main current circuit

for auxiliary and control circuitat contactor for auxiliary contacts

of magnet coil

type of connectable conductor cross-sections for main contacts

solidsolid or stranded

finely stranded with core end processing

connectable conductor cross-section for main contacts

solidstranded

finely stranded with core end processing

connectable conductor cross-section for auxiliary contacts

• finely stranded with core end processing

type of connectable conductor cross-sections

for auxiliary contacts— solid or stranded

solid or stranded

— finely stranded with core end processing

• at AWG cables for auxiliary contacts

AWG number as coded connectable conductor cross section

for main contactsfor auxiliary contacts

screw-type terminals

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

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)

0.5 ... 4 mm²

0.5 ... 4 mm² 0.5 ... 2.5 mm²

0.5 ... 4 mm² 0.5 ... 2.5 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

20 ... 12 20 ... 12

Safety related data

product function

mirror contact according to IEC 60947-4-1
 B10 value with high demand rate according to SN 31920

Yes; with 3RH29 1 000 000

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 suitability for use

safety-related switching OFF

40 %

73 %

100 FIT

20 a

IP20

finger-safe, for vertical contact from the front

Yes

Certificates/ approvals

General Product Approval





Confirmation



<u>KC</u>



EMC

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping













Marine / Shipping

other

Railway



Confirmation



Confirmation

Vibration and Shock

Further information

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=3RT2015-1AF01

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-1AF01

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1AF01

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

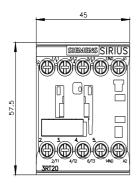
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2015-1AF01&lang=en

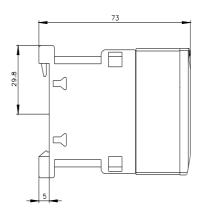
Characteristic: Tripping characteristics, I²t, Let-through current

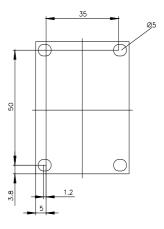
https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1AF01/char

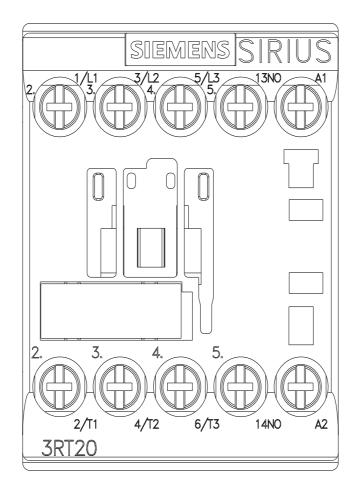
Further characteristics (e.g. electrical endurance, switching frequency)

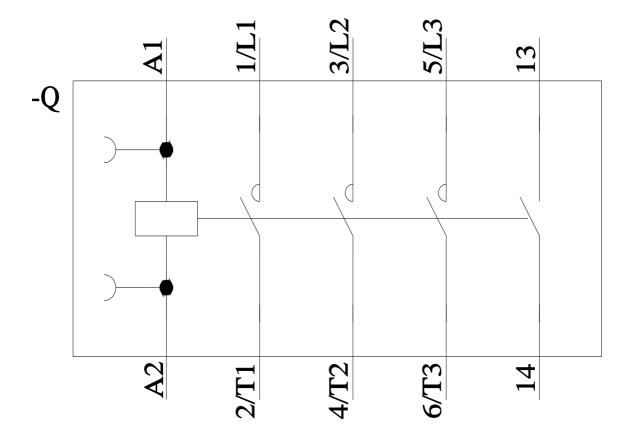
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2015-1AF01&objecttype=14&gridview=view1











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