## **SIEMENS**

## **Data sheet**



power contactor, AC-3e/AC-3, 7 A, 3 kW / 400 V, 3-pole, 230 V AC, 50/60 Hz, auxiliary contacts: 1 NO, screw terminal, size: S00, upright mounting position

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	0.6 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	0.2 W
<ul> <li>without load current share typical</li> </ul>	1.1 W
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	690 V
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	6 kV
<ul> <li>of auxiliary circuit rated value</li> </ul>	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 AC	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	10,5g / 5 ms, 6,6g / 10 ms
mechanical service life (operating cycles)	
<ul> <li>of contactor typical</li> </ul>	30 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	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	-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 %
Environmental footprint	
Environmental Product Declaration(EPD)	Yes

Global Warming Potential [CO2 eq] total	39.6 kg
Global Warming Potential [CO2 eq] during manufacturing	1.18 kg
Global Warming Potential [CO2 eq] during operation	38.5 kg
Global Warming Potential [CO2 eq] after end of life	-0.155 kg
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	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	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 $^{\circ}\text{C}$ 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
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	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
<ul> <li>up to 690 V for current peak value n=20 rated value</li> <li>at AC-6a</li> </ul>	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	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 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	0.6 A
at 600 V rated value	
<ul> <li>at 600 V rated value</li> <li>with 3 current paths in series at DC-1</li> </ul>	0.5 A

— at 60 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
— at 60 V rated value	0.35 A
— at 110 V rated value	0.1 A
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	15 A
— at 60 V rated value	3.5 A
— at 110 V rated value	0.25 A
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— 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-2 at 400 V rated value	3 kW
• 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  — 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
	3 kW
— at 500 V rated value	4 kW
— at 690 V rated value  operating power for approx. 200000 operating cycles at AC-	7 IVVV
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	1.15 kW
at 690 V rated value	1.15 kW
operating apparent power at AC-6a	
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
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	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	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	120 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	86 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 10 s switching at zero current maximum	67 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	52 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum	43 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	10 000 1/h
operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h
at AC-3e maximum	750 1/h
• at AC-4 maximum	250 1/h
werre imministration	

Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	230 V
• at 60 Hz rated value	230 V
operating range factor control supply voltage rated value of	
magnet coil at AC	
• at 50 Hz	0.8 1.1
● at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
• 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	4.2.1/4
• at 50 Hz	4.2 VA
• at 60 Hz	3.3 VA
inductive power factor with the holding power of the coil	0.25
• at 50 Hz	0.25
• at 60 Hz	0.25
closing delay	0. 25 ***
• at AC	9 35 ms
opening delay	4 15 ms
• at AC arcing time	4 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	Canada (11) 1/2
number of NO contacts for auxiliary contacts instantaneous	1
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	40.4
at 24 V rated value	10 A
at 48 V rated value	2 A
at 60 V rated value     at 440 V rated value	2 A
at 110 V rated value	1 A
at 125 V rated value     at 220 V rated value	0.9 A
at 220 V rated value     at 600 V rated value	0.3 A
at 600 V rated value  contact reliability of auxiliary contacts	0.1 A  1 faulty switching per 100 million (17 V, 1 mA)
contact reliability of auxiliary contacts  UL/CSA ratings	1 faulty switching per 100 million (17 V, 1 mA)
full-load current (FLA) for 3-phase AC motor	484
at 480 V rated value  at 600 V rated value	4.8 A 6.1 A
at 600 V rated value  yielded mechanical performance [hp]	V.1 A
for single-phase AC motor	
ior single-phase AC motor  — at 110/120 V rated value	0.25 hp
— at 110/120 V rated value  — at 230 V rated value	0.75 hp
— at 250 v rated value	0.10 TIP

• 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	
<ul> <li>for short-circuit protection of the main circuit</li> </ul>	
<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
<ul> <li>— with type of assignment 2 required</li> </ul>	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	standing, on horizontal mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
fastening method side-by-side mounting	Yes
height	58 mm
width	45 mm
depth	73 mm
required spacing	
<ul> <li>with side-by-side mounting</li> </ul>	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
<ul> <li>for grounded parts</li> </ul>	
— 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	screw-type terminals
<ul> <li>for auxiliary and control circuit</li> </ul>	screw-type terminals
<ul> <li>at contactor for auxiliary contacts</li> </ul>	Screw-type terminals
of magnet coil	Screw-type terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
<ul><li>— solid or stranded</li></ul>	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), 2x 4 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
for AWG cables for main contacts	2x (20 16), 2x (18 14), 2x 12
connectable conductor cross-section for main contacts	
• solid	0.5 4 mm²
• stranded	0.5 4 mm²
finely stranded with core end processing	0.5 2.5 mm²
connectable conductor cross-section for auxiliary contacts	
<ul> <li>solid or stranded</li> </ul>	0.5 4 mm²
finely stranded with core end processing	0.5 2.5 mm²
type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul><li>— solid or stranded</li></ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 16), 2x (18 14), 2x 12

AWG number as coded connectable conductor cross section • for main contacts 20 ... 12 · for auxiliary contacts 20 ... 12 Safety related data product function • mirror contact according to IEC 60947-4-1 Yes; with 3RH29 suitability for use safety-related switching OFF Yes; applies only to contactor operating mechanism proportion of dangerous failures • with low demand rate according to SN 31920 40 % • with high demand rate according to SN 31920 73 % B10 value with high demand rate according to SN 31920 1 000 000 failure rate [FIT] with low demand rate according to SN 100 FIT 31920 IEC 61508 T1 value 20 a • for proof test interval or service life according to IEC 61508 **Electrical Safety** 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

Approvals Certificates **General Product Approval** 



Confirmation









**General Product Approval** 

**EMV** 

**Functional Saftey** 

**Test Certificates** 

<u>KC</u>





Type Examination Certificate

Type Test Certificates/Test Report

Special Test Certific-

## Marine / Shipping













Marine / Shipping

other



**Environment** 

**Miscellaneous** 

Confirmation

Confirmation

Information on the packaging

com/cs/ww/en/view/109813875 https://support.industry.sieme

Information- and Downloadcenter (Catalogs, Brochures,...)

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2015-1AP01-1AA0

Cax online generator

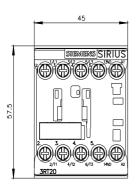
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-1AP01-1AA0

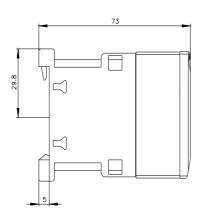
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

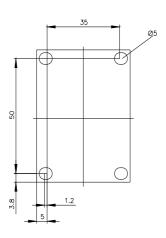
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

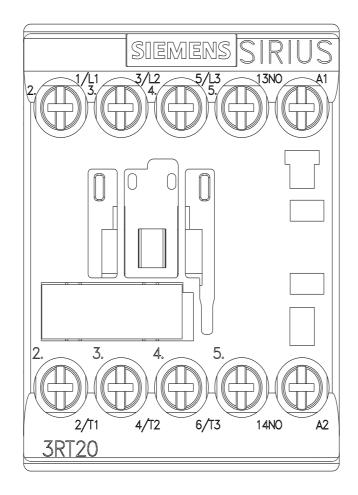
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2015-1AP01-1AA0&lang=en

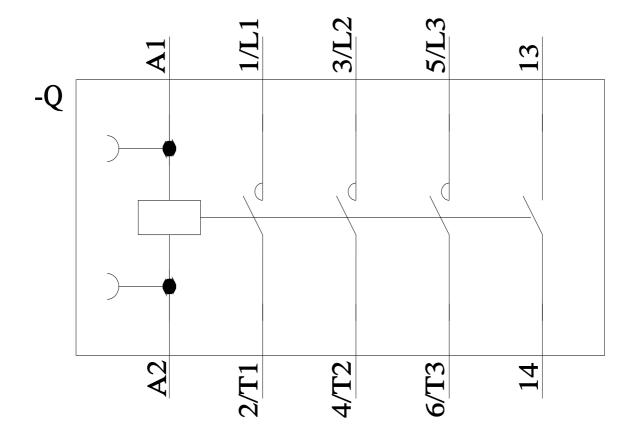
Characteristic: Tripping characteristics, I2t, Let-through current











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