SIEMENS

Data sheet 3RT2017-2KB42



power contactor, AC-3e/AC-3, 12 A, $5.5\,kW$ / 400 V, 1 NC, 24 V DC 0.7-1.25*Us with integrated suppressor diode 3-pole, frame size S00 spring-loaded terminal 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 	1.5 W	
 at AC in hot operating state per pole 	0.5 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	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	
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	22 A
rated value 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	20 A
rated value	
• at AC-3	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value ● at AC-3e	6.7 A
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value	6.7 A
• at AC-4 at 400 V rated value	8.5 A
 at AC-5a up to 690 V rated value 	19.4 A
at AC-5b up to 400 V rated value	9.9 A
• at AC-6a	
 up to 230 V for current peak value n=20 rated value 	7.2 A
 up to 400 V for current peak value n=20 rated value 	7.2 A
— up to 500 V for current peak value n=20 rated value	7.2 A
 up to 690 V for current peak value n=20 rated value at AC-6a 	6.7 A
— up to 230 V for current peak value n=30 rated value	4.8 A
— up to 400 V for current peak value n=30 rated value	4.8 A
 up to 500 V for current peak value n=30 rated value 	4.8 A
 up to 690 V for current peak value n=30 rated value 	4.8 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	4.1 A
at 690 V rated value	3.3 A
operational current	
at 1 current path at DC-1 at 24 V rated value	20 A
— at 110 V rated value	2.1 A
— at 220 V rated value	0.8 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
with 2 current paths in series at DC-1	
— at 24 V rated value	20 A
— at 110 V rated value	12 A
— at 220 V rated value — at 440 V rated value	1.6 A 0.8 A
— at 600 V rated value	0.7 A
with 3 current paths in series at DC-1	V.I A
— at 24 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	20 A
— at 440 V rated value	1.3 A
— at 600 V rated value	1 A
 at 1 current path at DC-3 at DC-5 — at 24 V rated value 	20 A
— at 24 V rated value — at 110 V rated value	0.15 A
— at 110 v rated value	U.10 /\

 with 2 current paths in series at DC-3 at DC-5 	
 at 24 V rated value 	20 A
— at 110 V rated value	0.35 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
operating power	
• at AC-3	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	5.5 kW
• at AC-3e	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	5.5 kW
operating power for approx. 200000 operating cycles at AC-4	
 at 400 V rated value 	2 kW
• at 690 V rated value	2.5 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	2.8 kVA
• up to 400 V for current peak value n=20 rated value	4.9 kVA
 up to 500 V for current peak value n=20 rated value 	6.2 kVA
 up to 690 V for current peak value n=20 rated value 	8 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	1.9 kVA
 up to 400 V for current peak value n=30 rated value 	3.3 kVA
 up to 500 V for current peak value n=30 rated value 	4.1 kVA
 up to 690 V for current peak value n=30 rated value 	5.7 kVA
short-time withstand current in cold operating state up to 40 °C	
limited to 1 s switching at zero current maximum	200 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	123 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	96 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	74 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	61 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	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
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	0.7
• full-scale value	1.25
design of the surge suppressor	suppressor diode
closing power of magnet coil at DC	2.8 W
holding power of magnet coil at DC	2.8 W
closing delay	05 400
• at DC	25 130 ms
opening delay	7 20
• at DC	7 20 ms

arcing time	10 15 ms
arcing time control version of the switch operating mechanism	10 15 ms Standard A1 - A2
Auxiliary circuit	Gundard AT - AZ
number of NC 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	40.4
at 24 V rated value	10 A
at 48 V rated value	6 A
• at 440 V rated value	6 A 3 A
at 110 V rated valueat 125 V rated value	2 A
at 123 V rated value at 220 V rated value	1 A
at 600 V rated value	0.15 A
operational current at DC-13	0.10 A
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 175 V rated value 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	11 A
 at 600 V rated value 	11 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
 — at 110/120 V rated value 	0.5 hp
— at 230 V rated value	2 hp
for 3-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	7.5 hp
— at 575/600 V rated value	10 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	0 =0.1 (000) (100) A)
— with type of coordination 1 required	gG: 50A (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	gG: 10 A (500 V, 1 kA)
required	5/·(656-1, 1)
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted
for the minute of the state of	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	70 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	spring-loaded terminals
for auxiliary and control circuit	spring-loaded terminals
,	
at contactor for auxiliary contacts of magnet soil	Spring-type terminals
of magnet coil	Spring-type terminals
type of connectable conductor cross-sections	
• for main contacts	0 (0.5 4 2)
— solid	2x (0.5 4 mm²)
— solid or stranded	2x (0,5 4 mm²)
 finely stranded with core end processing 	2x (0.5 2.5 mm²)
 finely stranded without core end processing 	2x (0.5 2.5 mm²)
 at AWG cables for main contacts 	2x (20 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
finely stranded without core end processing	0.5 2.5 mm ²
connectable conductor cross-section for auxiliary	
contacts	
 solid or stranded 	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm ²
 finely stranded without core end processing 	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0,5 4 mm²)
finely stranded with core end processing	2x (0.5 2.5 mm²)
— finely stranded with core end processing — finely stranded without core end processing	2x (0.5 2.5 mm²)
-	2x (0.3 2.3 mm) 2x (20 12)
at AWG cables for auxiliary contacts	ZX (20 12)
AWG number as coded connectable conductor cross section	
• for main contacts	20 12
for auxiliary contacts	20 12
·	LV 1L
Safety related data	
product function	W.
mirror contact according to IEC 60947-4-1	Yes
B10 value with high demand rate according to SN 31920	1 000 000
proportion of dangerous failures	
 with low demand rate according to SN 31920 	40 %
 with high demand rate according to SN 31920 	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
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



<u>KC</u>



EMC

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination
Certificate





Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping

other

Railway

Dangerous Good



Confirmation



Vibration and Shock

Special Test Certificate

<u>Transport Information</u>

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=3RT2017-2KB42

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-2KB42

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2KB42

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

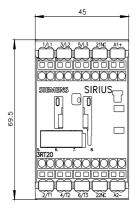
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-2KB42&lang=en

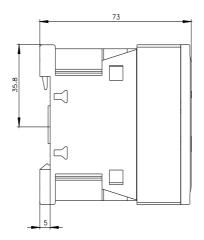
Characteristic: Tripping characteristics, I2t, Let-through current

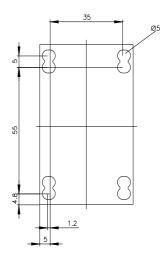
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2KB42/char

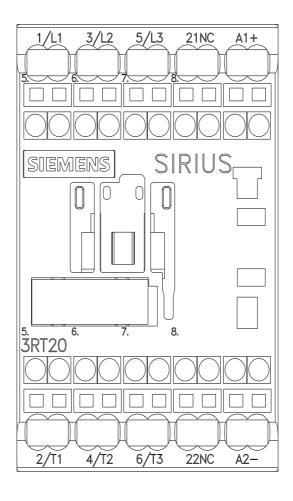
Further characteristics (e.g. electrical endurance, switching frequency)

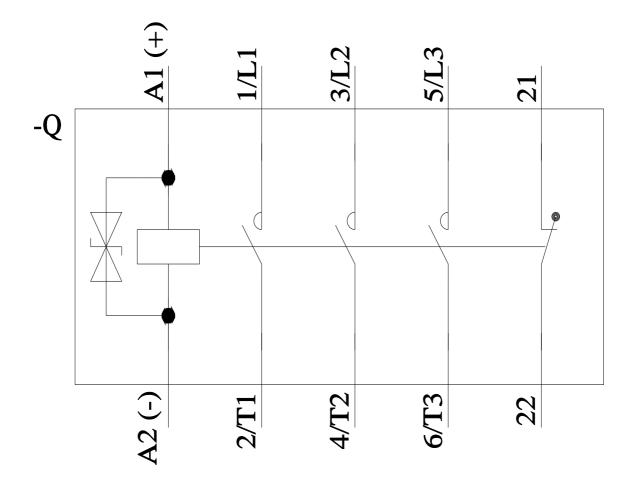
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2KB42&objecttype=14&gridview=view1











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