SIEMENS

Data sheet

3RT2016-1BE41



Power contactor, AC-3 9 A, 4 kW / 400 V 1 NO, 60 V DC 3-pole, Size S00 screw terminal

product brand name	SIRIUS	
product designation	Power contactor	
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 	0.9 W	
 at AC in hot operating state per pole 	0.3 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	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 (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	-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 	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-3	
— at 400 V rated value	9 A
— at 500 V rated value	7.7 A
— at 690 V rated value	6.7 A
● at AC-3e	
— at 400 V rated value	9 A
— at 500 V rated value	7.7 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	7.4 A
• at AC-6a	
 up to 230 V for current peak value n=20 rated value 	5.3 A
 up to 400 V for current peak value n=20 rated value 	5.3 A
— up to 500 V for current peak value n=20 rated value	5.3 A
 up to 690 V for current peak value n=20 rated value 	5 A
 at AC-6a up to 230 V for current peak value n=30 rated value 	3.5 A
 — up to 400 V for current peak value n=30 rated value 	3.5 A
 — up to 500 V for current peak value n=30 rated value 	3.6 A
— up to 690 V for current peak value n=30 rated value	3.3 A
minimum cross-section in main circuit at maximum AC-1 rated value operational current for approx. 200000 operating	4 mm ²
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
	20 A 12 A
— at 110 V rated value	
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.7 A
 with 3 current paths in series at DC-1 	

— 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 110 V rated value	0.1 A
 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	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	5.5 kW
• at AC-3e	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	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 kVA
• up to 400 V for current peak value n=20 rated value	3.6 kVA
• up to 500 V for current peak value n=20 rated value	4.6 kVA
up to 690 V for current peak value n=20 rated value	5.9 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	1.3 kVA
• up to 400 V for current peak value n=30 rated value	2.4 kVA
• up to 500 V for current peak value n=30 rated value	3.1 kVA
• up to 690 V for current peak value n=30 rated value	4 kVA
short-time withstand current in cold operating state up to 40 °C	
 limited to 1 s switching at zero current maximum 	155 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	111 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	86 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	66 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	55 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	60 V
operating range factor control supply voltage rated	
value of magnet coil at DC	
 initial value 	0.8
full-scale value	1.1
closing power of magnet coil at DC	4 W
holding power of magnet coil at DC	4 W
closing delay	
• at DC	30 100 ms
opening delay	
• at DC	7 13 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	7.6 A
• at 600 V rated value	9 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	0.33 hp
— at 230 V rated value	1 hp
 for 3-phase AC motor 	
— at 200/208 V rated value	2 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	5 hp
— at 575/600 V rated value	7.5 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 coordination required — with type of assignment 2 required	gG: 20A (690V,100KA), aN: 16A (690V, 100KA), BS88: 20A (415V, 80KA)
	80kA)
 for short-circuit protection of the auxiliary switch 	gG: 10 A (500 V, 1 kA)
required	

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		
 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 	screw-type terminals		
 for auxiliary and control circuit 	screw-type terminals		
at contactor for auxiliary contacts	Screw-type terminals		
of magnet coil	Screw-type terminals		
type of connectable conductor cross-sections			
for main contacts	$2 \times (0.5 - 4.5 - 2 \times 2^{2}) 2 \times (0.75 - 0.5 - 2 \times 2^{2}) 2 \times 4 - 2 \times 2^{2}$		
— solid — solid or stranded	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²), 2x 4 mm ² 2x (0,5 1,5 mm ²), 2x (0,75 2,5 mm ²), 2x 4 mm ²		
 — finely stranded with core end processing 	2x (0,5 1,5 mm ²), 2x (0,75 2,5 mm ²)		
at AWG cables for main contacts	2x (0.5 1.5 mm), 2x (0.75 2.5 mm) 2x (20 16), 2x (18 14), 2x 12		
connectable conductor cross-section for main	2x (20 10), 2x (10 14), 2x 12		
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	0.5 4 mm²		
 solid or stranded finely stranded with core end processing 	0.5 4 mm ² 0.5 2.5 mm ²		
type of connectable conductor cross-sections	0.0 2.0 [[[[]]		
for auxiliary contacts			
- solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²		
 — finely stranded with core end processing 	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)		
at AWG cables for auxiliary contacts	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		
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 %		

Image: Participation of the second rate according to SN 100 FIT 100 FIT 20 y 20 y If value for proof test interval or service life according to IEC 0503 20 y Protection class IP on the front according to IEC 05029 Inger-safe, for vertical contact from the front according to IEC 05029 Suitability for use • safety/related switching OFF Yes • safety/related switching OFF Yes Centrates/ approvals Confirmation General Product Approval Confirmation EMC Functional Safety/Safety of Machinery Declaration of Conformity Test Certificates Safety/Safety of Machinery Declaration of Conformity Test Certificates Safety/Safety of Machinery Exc. EMC Functional Safety/Safety of Machinery Declaration of Conformity Test Certificates Marine / Shipping Other Dangerous Good Safety/Safety of Machinery Marine / Shipping other Dangerous Good Functional Information Safety/Safety of Safety/Safety of Machinery Safety/Safety of Safety/Safety of Safety/Safety of Safety/Safety of Machinery Safety/Safety of Safe	 with high dema 	nd rate according to SN	31920	73 %		
IEC 61008 Image: set in the intervent seconding to IEC 00529 Image: set intervention on the front seconding to IEC 00529 Subability for use • setty-related switching OFF Yes Second Confinentiation Image: set intervention Confinentiation Image: set intervention Confinentiation Image: set intervention Image: set intervention Image: set intervention <			100 FIT			
60529 Inger-safe, for vertical contact from the front suitability for use • aldry-related switching OFF Yes Vers Yes Confirmation Inger-safe, for vertical contact from the front Vers Yes Confirmation KC ENC Functional Safety/Safety of Machinery Declaration of Conformity Test Certificates ENC Functional Safety/Safety of Machinery Declaration of Conformity Test Certificates ENC Safety/Safety of Machinery Declaration of Conformity Test Certificates Safety/Safety of Machinery Declaration of Conformity Test Certificates Safety/Safety of Machinery Safety/Safety of Machinery Safety/Safety of Machinery Safety/Safety of Machinery Safety/Safety of Safety Safety/Safety of Machinery Safety/Safety of Machinery Safety/Safety of Safety Safety/Safety Marine / Shipping Information Information Safety/Safety Safety/Safety Marine / Shipping Information Cariffrates Information Marine / Shipping Information Information Information Marine / Shipping Information	T1 value for proof test interval or service life according to		according to	20 у		
suitability for use • addy-related switching OFF Yes Selection of Confirmation ENC ENC ENC ENC ENC ENC ENC ENC	protection class IP on the front according to IEC		IP20			
selicity-related switching OFF Serificated Approvals Serificated Approvals Serificated Approvals Series Control (Series Control (Se		the front according to	DIEC 60529	finger-safe, for vertical contact from the front		
General Product Approval Image: Colspan="2">Confirmation Image: Colspan="2">KC Image: Colspan="2">End Confirmation Image: Colspan="2">Confirmation of Conformity Image: Colspan="2">Type Examination Confirmation Image: Colspan="2">Confirmation Confirmation Image: Confirmation Image: Confirmation Image: Confirmation signers.confirmation: Confirmation Image: Confirmation: Confirmation confire: Confirmation	-	witching OFF		Yes		
$\widetilde{\operatorname{exc}}$ $\widetilde{\operatorname{exc}}$ $\operatorname{Confirmation}$ $\widetilde{\operatorname{exc}}$ KC ENC $\operatorname{Functional}$ Safety/Safety of Machinery $\operatorname{Declaration of Conformity}$ $\operatorname{Test Certificates}$ $\widetilde{\operatorname{exc}}$ $\operatorname{Safety/Safety of}$ Machinery $\operatorname{Declaration of Conformity}$ $\operatorname{Test Certificates}$ $\widetilde{\operatorname{exc}}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Certificate}$ $\operatorname{Lipe Examination}$ Cartificate $\widetilde{\operatorname{exc}}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Certificate}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Marine / Shipping}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Certificate}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Marine / Shipping}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Certificate}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Marine / Shipping}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Marine / Shipping}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Marine / Shipping}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Marine / Shipping}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Marine / Shipping}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Marine / Shipping}$ $\operatorname{Lipe Examination}$ Cartificate $\operatorname{Lipe Examination}$ Cartificate	Certificates/ approval	S				
Image: Note of the section of the sectin of the sectin of the section of the section of the se	General Product Ap	proval				
EMC Safety/Safety of Machinery Declaration of Conformity Test Certificates Image: Certificate Type Examination Certificate Image: Certificate Type Test Certificate Special Test Certificate ates Marine / Shipping Image: Certificate Image: Certificate Image: Certificate Special Test Certificate ates Marine / Shipping Image: Certificate Image: Cerificate Image: Certificate Image: C	S.	CCC CCC	<u>Confirmatio</u>		<u>KC</u>	EHC
Vertificate Vert	EMC	Safety/Safety of	Declaration o	f Conformity	Test Certificates	
$\begin{tabular}{ c c c c } \hline \begin{tabular}{ c c c c c } \hline \begin{tabular}{ c c c c c c c } \hline \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	RCM		CE EG-Konf.			Special Test Certific- ate
Marine / Shipping other Dangerous Good Image: State of the state o	Marine / Shipping		惫惫	Llovds	A	
Confirmation Transport Information Further information Information- and Downloadcenter (Catalogs, Brochures,) https://www.siemens.com/action Information- and Downloadcenter (Catalog/product?mlfb=3RT2016-1BE41 Cax online generator Intp://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-1BE41 Service&Support (Manuals, Certificates, Characteristics, FAQs,) Intps://support.industry.siemens.com/cs/ww/en/ps/3RT2016-1BE41 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-1BE41⟨=en Characteristic: Tripping characteristics, I*t, Let-through current Characteristics http://support.automation.siemens.com/suppice: Suppice: Supice: Suppice: Suppice: Supice: Suppice: Su	ABS	BUREAU	DNV	<u>Kegister</u> us	PRS	RINA
Further 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=3RT2016-1BE41 Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-1BE41 Service&Support (Manuals, Certificates, Characteristics, FAQs,) https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-1BE41 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-1BE41& Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,) http://www.automation gharacteristics, I ⁴ t, Let-through current	Marine / Shipping	other		Dangerous Good		
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=3RT2016-1BE41 Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-1BE41 Service&Support (Manuals, Certificates, Characteristics, FAQs,) https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-1BE41 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-1BE41⟨=en Characteristic: Tripping characteristics, I ² t, Let-through current	KMRS	<u>Confirmation</u>				
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-1BE41⟨=en Characteristic: Tripping characteristics, I ² t, Let-through current	Information- and Do https://www.siemens. Industry Mall (Onlin- https://mall.industry.s Cax online generato http://support.automa Service&Support (M https://support.industri	com/ic10 e ordering system) iemens.com/mall/en/en or tion.siemens.com/WW/ lanuals, Certificates, C ry.siemens.com/cs/ww/o	/Catalog/product CAXorder/defaul Characteristics, en/ps/3RT2016-1	?mlfb=3RT2016-1BE41 t.aspx?lang=en&mlfb=3RT20 FAQs,) I <u>BE41</u>		
https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-1BE41/char Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2016-1BE41&objecttype=14&gridview=view1						

6/2/2022 🖸