# **SIEMENS**

Data sheet 3RT2027-1AH20



CONTACTOR, AC-3, 15KW/400V, 1NO+1NC, AC 48V 50/60HZ, 3-POLE, SZ S0 SCREW TERMINAL

Figure similar

product brand name	SIRIUS
Product designation	3RT2 contactor

General technical data:		
Insulation voltage		
Rated value	V	690
Degree of pollution		3
Surge voltage resistance Rated value	kV	6
Mechanical service life (switching cycles)		
<ul> <li>of the contactor typical</li> </ul>		10 000 000
<ul> <li>of the contactor with added electronics- compatible 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
Thermal short-time current restricted to 10 s	Α	260
Protection class IP		
• on the front		IP20
of the terminal		IP20
Equipment marking		
• acc. to DIN EN 61346-2		Q
• acc. to DIN EN 81346-2		Q

Main circuit:	
Number of poles for main current circuit	3
Number of NC contacts for main contacts	0
Number of NO contacts for main contacts	3
Operating voltage	

<ul> <li>at AC-3 Rated value maximum</li> </ul>	V	690
Operating current		
• at AC-1		
— at 400 V at ambient temperature 40 °C Rated value	Α	50
— up to 690 V at ambient temperature 40 °C Rated value	Α	50
— up to 690 V at ambient temperature 60 °C Rated value	Α	42
● at AC-2 at 400 V Rated value	Α	32
• at AC-3		
— at 400 V Rated value	Α	32
— at 500 V Rated value	Α	32
— at 690 V Rated value	Α	21
• at AC-4 at 400 V Rated value	Α	22
Operating current with 1 current path		
• at DC-1		
— at 24 V Rated value	Α	35
— at 110 V Rated value	Α	4.5
— at 220 V Rated value	Α	1
— at 440 V Rated value	Α	0.4
— at 600 V Rated value	Α	0.25
• at DC-3 at DC-5		
— at 24 V Rated value	Α	20
— at 110 V Rated value	Α	2.5
— at 220 V Rated value	Α	1
— at 440 V Rated value	Α	0.09
— at 600 V Rated value	Α	0.06
Operating current with 2 current paths in series		
• at DC-1		
— at 24 V Rated value	Α	35
— at 110 V Rated value	Α	35
— at 220 V Rated value	Α	5
— at 440 V Rated value	Α	1
— at 600 V Rated value	Α	0.8
• at DC-3 at DC-5		
— at 110 V Rated value	Α	15
— at 220 V Rated value	Α	3
— at 24 V Rated value	Α	35
— at 440 V Rated value	Α	0.27
— at 600 V Rated value	Α	0.16
Operating current with 3 current paths in series		

• at DC-1		
— at 24 V Rated value	Α	35
— at 110 V Rated value	Α	35
— at 220 V Rated value	Α	35
— at 440 V Rated value	Α	2.9
— at 600 V Rated value	Α	1.4
• at DC-3 at DC-5		
— at 110 V Rated value	Α	35
— at 220 V Rated value	Α	10
— at 24 V Rated value	Α	35
— at 440 V Rated value	Α	0.6
— at 600 V Rated value	Α	0.6
Operating power		
● at AC-1 at 400 V Rated value	kW	28
● at AC-2 at 400 V Rated value	kW	15
● at AC-4 at 400 V Rated value	kW	11
Operating power		
● at AC-1		
— at 230 V at 60 °C Rated value	kW	15.5
— at 230 V Rated value	kW	16
— at 400 V at 60 °C Rated value	kW	27.5
— at 690 V at 60 °C Rated value	kW	47.5
— at 690 V Rated value	kW	48
• at AC-3		
— at 230 V Rated value	kW	7.5
— at 400 V Rated value	kW	15
— at 690 V Rated value	kW	18.5
Operating power for ≥ 200000 operating cycles at AC-4		
● at 400 V Rated value	kW	6
● at 690 V Rated value	kW	10.3
Operating frequency		
• at AC-3 maximum	1/h	750
Control circuit/ Control:		
Type of voltage of the control supply voltage		AC
Control supply voltage with AC		

Control circuit/ Control:		
Type of voltage of the control supply voltage		AC
Control supply voltage with AC		
• at 50 Hz Rated value	V	48
● at 60 Hz Rated value	V	48
Operating range factor control supply voltage rated		
value of the magnet coil with AC		
● at 50 Hz		0.8 1.1

0.85 ... 1.1

Auxiliary circuit:		
Number of NC contacts		
• for auxiliary contacts		
— instantaneous contact		1
Number of NO contacts		
• for auxiliary contacts		
— instantaneous contact		1
Product expansion Auxiliary switch		Yes
Operating current at AC-15		
at 230 V Rated value	Α	10
at 400 V Rated value	Α	3
● at 690 V Rated value	Α	1
Operating current		
• at DC-12 at 125 V Rated value	Α	2
• at DC-12 at 220 V Rated value	Α	1
at DC-12 at 600 V Rated value	Α	0.15
at DC-13 at 125 V Rated value	Α	0.9
• at DC-13 at 220 V Rated value	Α	0.3
• at DC-13 at 600 V Rated value	Α	0.1
Operating current		
• at DC-12		
— at 60 V Rated value	Α	6
— at 110 V Rated value	Α	3
• at DC-13		
— at 24 V Rated value	Α	10
— at 60 V Rated value	Α	2
— at 110 V Rated value	Α	1
Contact reliability of the auxiliary contacts		1 faulty switching per 100 million (17 V, 1 mA)
JL/CSA ratings:		
Full-load current (FLA) for three-phase AC motor		
● at 480 V Rated value	Α	27
● at 600 V Rated value	Α	27
yielded mechanical performance [hp]		
<ul> <li>for single-phase AC motor at 110/120 V Rated value</li> </ul>	metric hp	2
<ul> <li>for single-phase AC motor at 230 V Rated value</li> </ul>	metric hp	5
<ul> <li>for three-phase AC motor at 200/208 V Rated value</li> </ul>	metric hp	10
• for three-phase AC motor at 220/230 V Rated	metric	10

value

• at 60 Hz

hp

<ul> <li>for three-phase AC motor at 460/480 V Rated value</li> </ul>	metric hp	20
<ul> <li>for three-phase AC motor at 575/600 V Rated value</li> </ul>	metric hp	25
Contact rating of the auxiliary contacts acc. to UL		A600 / Q600

Contact rating of the auxiliary contacts acc. to UL	A600 / Q600
Short-circuit:	
Design of the fuse link	
<ul> <li>for short-circuit protection of the main circuit</li> </ul>	
— with type of assignment 1 required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 100 A
<ul> <li>with type of assignment 2 required</li> </ul>	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 A
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	fuse gL/gG: 10 A
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

mounting position		+/-180° rotation possible on vertical mounting
meaning pecialis		surface; can be tilted forward and backward by +/-
		22.5° on vertical mounting surface
Mounting type		screw and snap-on mounting onto 35 mm standard
		mounting rail according to DIN EN 50022
Side-by-side mounting		Yes
Height	mm	85
Width	mm	45
Depth	mm	97
Required spacing		
<ul><li>with side-by-side mounting</li></ul>		
— forwards	mm	0
— Backwards	mm	0
— upwards	mm	0
— downwards	mm	0
— at the side	mm	0
• for grounded parts		
— forwards	mm	0
— Backwards	mm	0
— upwards	mm	0
— at the side	mm	6
— downwards	mm	0
• for live parts		
— forwards	mm	0
— Backwards	mm	0
— upwards	mm	0
— downwards	mm	0

		_	
— at the side	mm	6	
	111111		

Connections/ Terminals:		
Type of electrical connection		
• for main current circuit		screw-type terminals
<ul> <li>for auxiliary and control current circuit</li> </ul>		screw-type terminals
Type of connectable conductor cross-section		
• for main contacts		
<ul> <li>single or multi-stranded</li> </ul>		2x (1 2,5 mm²), 2x (2,5 10 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>		2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
<ul> <li>for AWG conductors for main contacts</li> </ul>		2x (16 12), 2x (14 8)
• for auxiliary contacts		
<ul> <li>single or multi-stranded</li> </ul>		2x (0,5 1,5 mm²), 2x (0,75 2,5 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 conductors for auxiliary contacts</li> </ul>		2x (20 16), 2x (18 14)
Apparent pick-up power of the magnet coil with AC		
● at 50 Hz	V·A	81
● at 60 Hz	V·A	79

Safety related data:					
B10 value with high demand rate acc. to SN 31920		1 000 000			
Proportion of dangerous failures					
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	%	40			
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	%	73			
Failure rate [FIT] with low demand rate acc. to SN 31920	FIT	100			
Product function Mirror contact acc. to IEC 60947-4-1		Yes			
T1 value for proof test interval or service life acc. to IEC 61508	У	20			
Protection against electrical shock		finger-safe			

Mechanical data:		
Size of contactor	S0	

Ambient conditions:				
Installation altitude at height above sea level	m	2 000		
maximum				
Ambient temperature				
<ul> <li>during operation</li> </ul>	°C	-25 <b>+</b> 60		
during storage	°C	-55 <b>+</b> 80		

## Certificates/ approvals:

#### **General Product Approval**

**EMC** 

Functional Safety/Safety of Machinery

Type Examination











Declaration of Conformity	Test Certificates		Shipping Approval	
( (	Type Test Certificates/Test	Special Test Certificate	LAICAN BUAR	S V TAN



### **Shipping Approval**

other



GL

EG-Konf.



LRS

Report







Environmental Confirmations

other



#### Further information

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

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

http://www.siemens.com/industrymall

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT20271AH20}$ 

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

http://support.automation.siemens.com/WW/view/en/3RT20271AH20/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT20271AH20&lang=en



