## **SIEMENS**

Product data sheet 3RT2038-1AK60



CONTACTOR,AC3:37KW/400V, 1NO+1NC,110VAC 50HZ/120V 60HZ, 3-POLE, SIZE S2, SCREW TERMINAL

General technical data:		
		CIDILIC
product brand name		SIRIUS
Size of contactor		S2
Product expansion		
Auxiliary switch		Yes
function module for communication		No
Protection class IP / on the front		IP20
Degree of pollution		3
Installation altitude / at height above sea level / maximum	m	2,000
Ambient temperature		
during storage	°C	-55 +80
during operation	°C	-25 +60
Surge voltage resistance / Rated value	kV	6
Insulation voltage / Rated value	V	690
maximum permissible voltage for safe isolation / between coil and main contacts / acc. to EN 60947-1	V	400
Mechanical service life (switching cycles)		
of the contactor / typical		10,000,000
of the contactor with added auxiliary switch block / typical		10,000,000
<ul> <li>of the contactor with added electronics-compatible auxiliary switch block / typical</li> </ul>		5,000,000

Main circuit:		
Number of NC contacts / for main contacts		0
Number of NO contacts / for main contacts		3
Connectable conductor cross-section / in main circuit		
• at AC-1		
• at 40 °C / minimum permissible	mm²	35
• at 60 °C / minimum permissible	mm²	35
Operating current		
• at AC-1 / up to 690 V		
• at ambient temperature 40 °C / Rated value	Α	90
• at ambient temperature 60 °C / Rated value	Α	80
• at AC-2 / at 400 V / Rated value	Α	80
• at AC-3		
• at 400 V / Rated value	Α	80
• at 500 V / Rated value	Α	80
• at 690 V / Rated value	Α	58
• at AC-4 / at 400 V / Rated value	Α	55
Operating current / for ≥ 200000 operating cycles / at AC-4		
at 400 V / Rated value	Α	30
at 690 V / Rated value	Α	24
Operating current		
• with 1 current path / at DC-1		
• at 24 V / Rated value	Α	75
• at 110 V / Rated value	Α	4.5
• at 220 V / Rated value	Α	2
• at 440 V / Rated value	Α	0.4
• at 600 V / Rated value	Α	0.25
• with 2 current paths in series / at DC-1		
• at 24 V / Rated value	Α	75
• at 110 V / Rated value	Α	45
• at 220 V / Rated value	Α	5
• at 440 V / Rated value	Α	1
• at 600 V / Rated value	Α	0.8
• with 3 current paths in series / at DC-1		
• at 24 V / Rated value	Α	55
• at 110 V / Rated value	Α	45
• at 220 V / Rated value	Α	45
• at 440 V / Rated value	Α	2.9
at 600 V / Rated value	Α	1.4

Operating current		
• with 1 current path / at DC-3 / at DC-5		
• at 24 V / Rated value	Α	35
• at 110 V / Rated value	Α	2.5
• at 220 V / Rated value	Α	2
• at 440 V / Rated value	Α	0.1
• at 600 V / Rated value	Α	0.06
• with 2 current paths in series / at DC-3 / at DC-5		
• at 24 V / Rated value	Α	55
• at 110 V / Rated value	Α	25
• at 220 V / Rated value	Α	5
• at 440 V / Rated value	Α	0.27
• at 600 V / Rated value	Α	0.16
• with 3 current paths in series / at DC-3 / at DC-5		
• at 24 V / Rated value	Α	55
• at 110 V / Rated value	Α	45
• at 220 V / Rated value	Α	25
• at 440 V / Rated value	Α	0.6
• at 600 V / Rated value	Α	0.6
Operating power		
• at AC-1 / at 230 V / Rated value	kW	34
• at AC-1 / at 400 V / Rated value	kW	59
• at AC-1 / at 690 V / Rated value	kW	102
• at AC-2		
• at 400 V / Rated value	kW	37
• at AC-3		
• at 230 V / Rated value	kW	22
• at 400 V / Rated value	kW	37
• at 500 V / Rated value	kW	37
• at 690 V / Rated value	kW	45
• at AC-4		
• at 400 V / Rated value	kW	30
Operating power / for ≥ 200000 operating cycles / at AC-4		
• at 400 V / Rated value	kW	15.8
• at 690 V / Rated value	kW	21.8
Thermal short-time current / restricted to 10 s	Α	640
Active power loss / at AC-3 / at 400 V / for rated value of the operating current / per conductor	W	5.7
No-load switching frequency		
The load emilianing mediciney		

Operating frequency		
• at AC-1 / maximum	1/h	700
• at AC-2 / maximum	1/h	350
• at AC-3 / maximum	1/h	500
• at AC-4 / maximum	1/h	150

Control circuit/ Control:		
Type of voltage / of the control supply voltage		AC
Control supply voltage		
• with AC / at 50 Hz / Rated value	V	110
• with AC / at 60 Hz / Rated value	V	120
Operating range factor control supply voltage rated value / of the magnet coil		
• with AC / at 50 Hz		0.8 1.1
• with AC / at 60 Hz		0.8 1.1
Apparent pick-up power / of the magnet coil / with AC		
• at 50 Hz	V·A	212
• at 60 Hz	V·A	188
Apparent holding power / of the magnet coil / with AC		
• at 50 Hz	V·A	18.5
• at 60 Hz	V·A	16.5
Closing delay		
• with AC	ms	10 80
Opening delay		
• with AC	ms	10 18
Arcing time	ms	10 20

Auxiliary circuit:		
Number of NC contacts / for auxiliary contacts / instantaneous contact		1
Number of NO contacts / for auxiliary contacts / instantaneous contact		1
Operating current		
• at AC-12 / maximum	Α	10
• at AC-15		
• at 230 V / Rated value	Α	10
• at 400 V / Rated value	Α	3
• at 500 V / Rated value	Α	2
• at 690 V / Rated value	Α	1
Operating current / at DC-12		
• at 24 V / Rated value	Α	10

• at 48 V / Rated value	Α	6
• at 60 V / Rated value	Α	6
• at 110 V / Rated value	Α	3
• at 125 V / Rated value	Α	2
• at 220 V / Rated value	Α	1
• at 440 V / Rated value	Α	0.3
• at 600 V / Rated value	Α	0.15
Operating current / at DC-13		
• at 24 V / Rated value	Α	10
• at 48 V / Rated value	Α	2
• at 60 V / Rated value	Α	2
• at 110 V / Rated value	Α	1
• at 125 V / Rated value	Α	0.9
• at 220 V / Rated value	Α	0.3
• at 440 V / Rated value	Α	0.14
• at 600 V / Rated value	Α	0.1

UL/CSA ratings:		
yielded mechanical performance [hp]		
for single-phase AC motor		
• at 110/120 V / Rated value	hp	5
at 230 V / Rated value	hp	15
for three-phase AC motor		
• at 200/208 V / Rated value	hp	20
• at 220/230 V / Rated value	hp	25
• at 460/480 V / Rated value	hp	50
• at 575/600 V / Rated value	hp	60
Full-load current (FLA) / for three-phase AC motor		
• at 480 V / Rated value	Α	65
• at 600 V / Rated value	Α	62
Contact rating / of the auxiliary contacts / acc. to UL		A600 / P600

Short-circuit:	
Design of the fuse link	
• for short-circuit protection of the auxiliary switch / required	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 type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022	

Width	mm	55
Height	mm	113.4
Depth	mm	130
Spacing required / with side-by-side mounting	mm	0

Connections/ terminals:  Design of the electrical connection  • for main current circuit  • for auxiliary and control current circuit  Type of connectable conductor cross-section  • for main contacts  • single or multi-stranded  • finely stranded / with core end processing  • for ANIC conductors (for main contacts  • for ANIC conductors (for main contacts			
<ul> <li>for main current circuit</li> <li>for auxiliary and control current circuit</li> <li>Type of connectable conductor cross-section</li> <li>for main contacts</li> <li>single or multi-stranded</li> <li>finely stranded / with core end processing</li> <li>screw-type terminals</li> <li>2x (1 35 mm²), 1x (1 50 mm²)</li> <li>2x (1 25 mm²), 1x (1 35 mm²)</li> </ul>	Connections/ terminals:		
<ul> <li>for auxiliary and control current circuit</li> <li>Type of connectable conductor cross-section</li> <li>for main contacts</li> <li>single or multi-stranded</li> <li>finely stranded / with core end processing</li> <li>screw-type terminals</li> <li>2x (1 35 mm²), 1x (1 50 mm²)</li> <li>2x (1 25 mm²), 1x (1 35 mm²)</li> </ul>	Design of the electrical connection		
Type of connectable conductor cross-section  • for main contacts  • single or multi-stranded  • finely stranded / with core end processing  2x (1 35 mm²), 1x (1 50 mm²)  2x (1 25 mm²), 1x (1 35 mm²)	for main current circuit	screw-type terminals	
<ul> <li>for main contacts</li> <li>single or multi-stranded</li> <li>finely stranded / with core end processing</li> <li>2x (1 35 mm²), 1x (1 50 mm²)</li> <li>2x (1 25 mm²), 1x (1 35 mm²)</li> </ul>	for auxiliary and control current circuit	screw-type terminals	
<ul> <li>single or multi-stranded</li> <li>finely stranded / with core end processing</li> <li>2x (1 35 mm²), 1x (1 50 mm²)</li> <li>2x (1 25 mm²), 1x (1 35 mm²)</li> </ul>	Type of connectable conductor cross-section		
• finely stranded / with core end processing  2x (1 25 mm²), 1x (1 35 mm²)	for main contacts		
	single or multi-stranded	2x (1 35 mm²), 1x (1 50 mm²)	
for ANIC conductors / for main contacts	<ul> <li>finely stranded / with core end processing</li> </ul>	2x (1 25 mm²), 1x (1 35 mm²)	
• for AVVG conductors / for main contacts	for AWG conductors / for main contacts	2x (18 2), 1x (18 1)	
Type of connectable conductor cross-section	Type of connectable conductor cross-section		
• for auxiliary contacts	for auxiliary contacts		
• single or multi-stranded 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)	single or multi-stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)	
• finely stranded / with core end processing 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)	
• for AWG conductors / for auxiliary contacts 2x (20 16), 2x (18 14)	for AWG conductors / for auxiliary contacts	2x (20 16), 2x (18 14)	

Safety related data:		
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
Product function		
Mirror contact acc. to IEC 60947-4-1		Yes
<ul> <li>positively driven operation acc. to IEC 60947-5-1</li> </ul>		No

## Certificates/ approvals:

General Product Approval

other





Confirmation

## Further information:

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

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

Industry Mall (Online ordering system)

http://www.siemens.com/industrymall

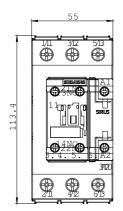
Cax online generator

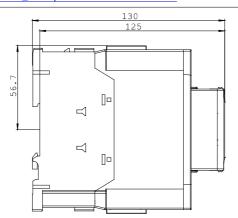
http://www.siemens.com/cax

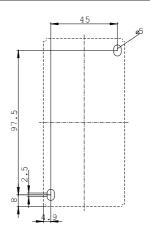
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

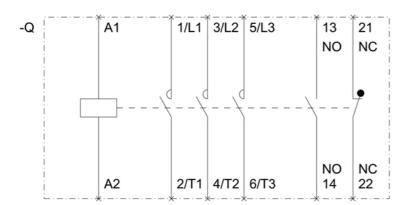
http://support.automation.siemens.com/WW/view/en/3RT2038-1AK60/all

http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3RT2038-1AK60









last change: Dec 17, 2014