SIEMENS

Product data sheet 3RT2028-1AK60

CONTACTOR, AC-3, 18.5KW/400V, 1NO+1NC,
AC 110V 50HZ, 120V 60HZ 3-POLE,
SZ S0 SCREW TERMINAL

General technical data:		
Product brand name		SIRIUS
Product designation		3RT2 contactor
Size of the contactor		S0
Protection class IP / frontal/front side		IP20
Degree of pollution		3
Installation altitude / at a height over sea level / maximum	m	2000
Ambient temperature		
• during storage	°C	-55 … 80
• during the operating phase	°C	-25 … 60
• during transport	°C	-55 … 80
Resistance against shock		12.5g / 5 ms and 7.8g / 10 ms
Impulse voltage resistance / rated value	kV	6
Insulation voltage / rated value	V	690
Resistive loss		
• per conductor / typical	W	3.8
Apparent loss power / of the magnet coil / at AC / typical	V·A	9.8
Item designation		
• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750		K

• according to DIN EN 61346-2		Q
Mechanical operating cycles as operating time		
• of the contactor / typical		10000000
• of the contactor with added auxiliary switch block / typical		10000000
• of the contactor with added electronics-compatible auxiliary switch block / typical		10000000

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 / at 3 AC / rated value		
• maximum	V	690
Operating current / at AC-1 / at 400 V		
• at 40 °C ambient temperature / rated value	A	50
• at 60 °C ambient temperature / rated value	A	42
Operating current		
• at AC-2 / at 400 V / rated value	A	38
• at AC-3 / at 400 V / rated value	A	38
• at AC-4 / at 400 V / rated value	A	20
• with 1 current path / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	4.5
• with 2 current paths in series / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	35
• with 3 current paths in series / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	35
• with 1 current path / at DC-3 / at DC-5		
• at 24 V / rated value	A	20
• at 110 V / rated value	A	2.5
• with 2 current paths in series / at DC-3 / at DC-5		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	15
• with 3 current paths in series / at DC-3 / at DC-5		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	35
Service power		
• at AC-2 / at 400 V / rated value	kW	18.5

• at AC-3		
• at 400 V / rated value	kW	18.5
• at 500 V / rated value	kW	15
• at 690 V / rated value	kW	15
• at AC-4 / at 400 V / rated value	kW	18.5
Operating reactive power / at AC-6b		
• at 230 V / rated value	var	0
• at 400 V / rated value	var	0
• at 690 V / rated value	var	0
Off-load operating frequency	1/h	5000
Switching frequency		
• at AC-1 / according to IEC 60947-6-2 / maximum	1/h	1000
• at AC-2 / according to IEC 60947-6-2 / maximum	1/h	750
• at AC-3 / according to IEC 60947-6-2 / maximum	1/h	750
• at AC-4 / according to IEC 60947-6-2 / maximum	1/h	250

Control circuit:

Design of activation of the operating mechanism		conventional
Type of voltage / of the controlled supply voltage		AC
Control supply voltage frequency		
• 1 / rated value	Hz	50
• 2 / rated value	Hz	60
Control supply voltage / 1		
• at 50 Hz / for AC		
• rated value	V	110
• at 60 Hz / for AC		
• rated value	V	120
Operating range factor control supply voltage rated value / of the solenoid		
• at 50 Hz / for AC		0.8 … 1.1
• at 60 Hz / for AC		0.85 … 1.1
Apparent pull-in power / of the solenoid / for AC	V·A	77
Apparent holding power / of the solenoid / for AC	V·A	9.8
Inductive power factor		
• with the pull-in power of the coil		0.82
• with the pull-in power of the coil		0.25

Auxiliary circuit:

Product extension / auxiliary switch		Yes
Contact reliability / of the auxiliary contacts		1 faulty switching per 100 million (17 V, 1 mA)
Number of NC contacts / for auxiliary contacts		

• instantaneous switching		1
• lagging switching		0
Number of NO contacts / for auxiliary contact		
• instantaneous switching		1
• leading switching		0
Operating current / of the auxiliary contacts		
• at AC-12 / maximum	A	10
• at AC-15		
• at 230 V	A	10
• at 400 V	A	3
• at DC-12		
• at 48 V	A	6
• at 60 V	A	6
• at 110 V	A	3
• at 220 V	A	1
• at DC-13		
• at 24 V	A	6
• at 48 V	A	2
• at 60 V	A	2
• at 110 V	A	1
• at 220 V	A	0.3

Short-circuit:

Design of the fuse link		
• for short-circuit protection of the auxiliary switch / required		fuse gL/gG: 10 A
• for short-circuit protection of the main circuit		
• at type of coordination 1 / required		gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 100 A
• at type of coordination 2 / required		gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35A

Installation/mounting/dimensions:

Built in orientation		vertical
Type of mounting		screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
Type of fixing/fixation / series installation		Yes
Width	mm	45
Height	mm	85
Depth	mm	92
Distance, to be maintained, to the ranks assembly		
• forwards	mm	0
• backwards	mm	0

• upwards	mm	6
• downwards	mm	6
• sidewards	mm	0
Distance, to be maintained, to earthed part		
• forwards	mm	6
• backwards	mm	0
• upwards	mm	6
• downwards	mm	6
• sidewards	mm	6
Distance, to be maintained, conductive elements		
• forwards	mm	6
• backwards	mm	6
• upwards	mm	6
• downwards	mm	10
• sidewards	mm	6

Connections:

Design of the electrical connection		
• for main current circuit		screw-type terminals
• for auxiliary and control current circuit		screw-type terminals
Type of the connectable conductor cross-section		
• for main contacts		
• unifilar		2x (1 ... 2.5 mm2), 2x (2.5 ... 10 mm2)
• stranded wire		2x (1 ... 2.5 mm2), 2x (2.5 ... 10 mm2)
• stranded wire		
• with conductor end processing		2x (1 ... 2.5 mm2), 2x (2.5 ... 6 mm2), 1x 10 mm2
• at AWG-conductors / for main contacts		2x (16 ... 12), 2x (14 ... 8)
• for auxiliary contacts		
• solid		2x (0.5 ... 1.5 mm2), 2x (0.75 ... 2.5 mm2)
• finely stranded		
• with wire end processing		2x (0.5 ... 1.5 mm2), 2x (0.75 ... 2.5 mm2)
• for AWG conductors / for auxiliary contacts		2x (20 ... 16), 2x (18 ... 14)

Certificates/approvals:

Verification of suitability		CE / UL / CSA / CCC

Safety:

B10 value / with high demand rate		
• according to SN 31920		1000000
T1 value / for proof test interval or service life		
• according to IEC 61508	a	20

Proportion of dangerous failures		
• with low demand rate / according to SN 31920	%	40
• with high demand rate / according to SN 31920	%	75
Failure rate (FIT value) / with low demand rate		
• according to SN 31920	FIT	100
Protection against electrical shock		finger-safe

Further information:

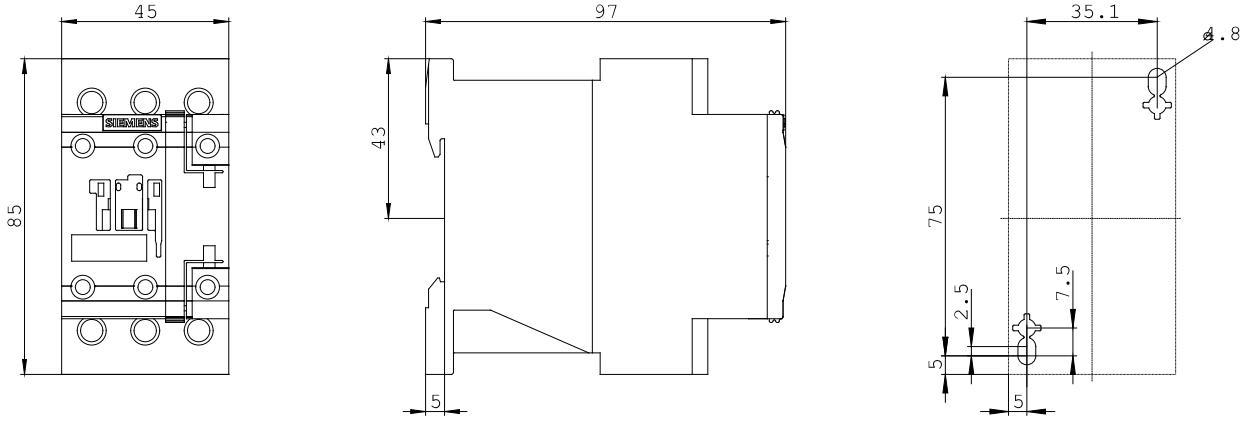
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

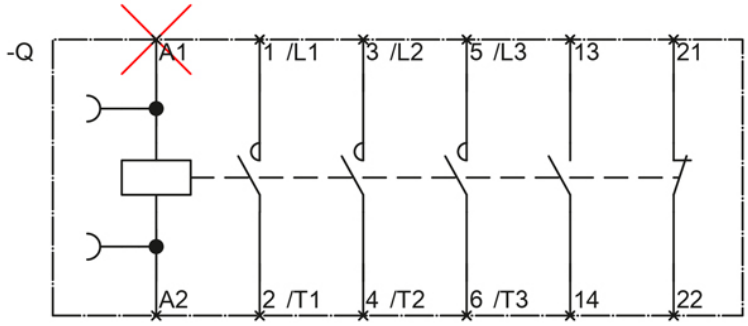
Industry Mall (Online ordering system)
http://www.siemens.com/industrial-controls/mall

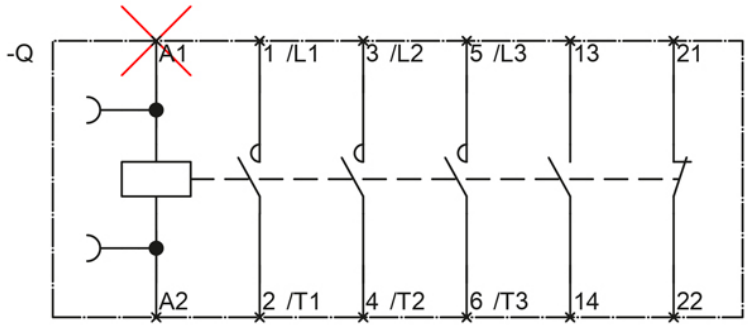
CAx-Online-Generator
http://www.siemens.com/cax

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3RT2028-1AK60/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2028-1AK60







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