SIEMENS

Data sheet 3RT1446-1AN20

Figure similar

CONTACTOR, AC-1 140 A / 400 V, AC 220 V, 50/60 HZ, 3-POLE, SIZE S3, SCREW CONNECTION

product brand name		SIRIUS
Product designation		power contactor

General technical data:		
Insulation voltage		
• Rated value	V	1 000
Degree of pollution		3
Surge voltage resistance Rated value	kV	6
Mechanical service life (switching cycles)		
• of the contactor typical		10 000 000
• of the contactor with added electronics-compatible auxiliary switch block typical		5 000 000
• of the contactor with added auxiliary switch block typical		10 000 000
Thermal short-time current restricted to 10 s	A	600
Protection class IP		
• on the front		IP20
• of the terminal		IP00
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 current		

• at AC-1		
— at 400 V at ambient temperature 40 °C Rated value	A	140
— up to 690 V at ambient temperature 40 °C Rated value	A	140
— up to 690 V at ambient temperature 60 °C Rated value	A	130
• at AC-3		
— at 400 V Rated value	A	44
— at 690 V Rated value	A	44
Operating current with 1 current path		
• at DC-1		
— at 24 V Rated value	A	130
— at 110 V Rated value	A	12
• at DC-3 at DC-5		
— at 24 V Rated value	A	6
— at 110 V Rated value	A	1.25
Operating current with 2 current paths in series		
• at DC-1		
— at 24 V Rated value	A	130
— at 110 V Rated value	A	130
• at DC-3 at DC-5		
— at 110 V Rated value	A	130
— at 24 V Rated value	A	130
Operating current with 3 current paths in series		
• at DC-1		
— at 24 V Rated value	A	130
— at 110 V Rated value	A	130
• at DC-3 at DC-5		
— at 110 V Rated value	A	130
— at 24 V Rated value	A	130
Operating power		
• at AC-1 at 400 V Rated value	kW	86
• at AC-2 at 400 V Rated value	kW	22
Operating power		
• at AC-1		
— at 230 V at 60 °C Rated value	kW	50
— at 690 V at 60 °C Rated value	kW	148
— at 690 V Rated value	kW	148
• at AC-3		
— at 230 V Rated value	kW	12.7
— at 400 V Rated value	kW	22

— at 500 V Rated value	kW	29.9
— at 690 V Rated value	kW	38.2

Control circuit/ Control:		
Type of voltage of the control supply voltage		AC
Control supply voltage with AC		
• at 50 Hz Rated value	V	220
• at 60 Hz Rated value	V	220
• Rated value	Hz	50
Control supply voltage frequency 2 Rated value	Hz	60
Operating range factor control supply voltage rated value of the magnet coil with AC		
• at 50 Hz		0.8 ... 1.1
• at 60 Hz		0.85 ... 1.1
Apparent pick-up power of the magnet coil with AC	V·A	298
Apparent holding power of the magnet coil with AC	V·A	27
Inductive power factor		
• with closing power of the coil		0.7
• with the holding power of the coil		0.29

Auxiliary circuit:		
Number of NC contacts		
• for auxiliary contacts		
— instantaneous contact		0
Number of NO contacts		
• for auxiliary contacts		
— instantaneous contact		0
Operating current at AC-15		
• at 230 V Rated value	A	6
• at 400 V Rated value	A	3
Operating current		
• at DC-12 at 220 V Rated value	A	1
• at DC-13 at 220 V Rated value	A	0.3
Operating current		
• at DC-12		
— at 60 V Rated value	A	6
— at 110 V Rated value	A	3
• at DC-13		
— at 24 V Rated value	A	10
— at 60 V Rated value	A	2
— at 110 V Rated value	A	1
Contact reliability of the auxiliary contacts		1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings:

Contact rating of the auxiliary contacts acc. to UL		A600 / Q600
Short-circuit:		
Design of the fuse link		
• for short-circuit protection of the main circuit		
— with type of assignment 1 required		fuse gL/gG: 250 A
— with type of assignment 2 required		fuse gL/gG: 250 A
• for short-circuit protection of the auxiliary switch required		fuse gL/gG: 10 A
Installation/ mounting/ dimensions:		
Mounting type		screw and snap-on mounting onto 35 mm and 75 mm standard mounting rail
• Side-by-side mounting		Yes
Height	mm	146
Width	mm	70
Depth	mm	139
Required spacing		
• for grounded parts		
— at the side	mm	6
Connections/ Terminals:		
Type of electrical connection		
• for main current circuit		screw-type terminals
• for auxiliary and control current circuit		screw-type terminals
Type of connectable conductor cross-section		
• for main contacts		
— solid		2x (2.5 ... 16 mm²)
— stranded		2x (10 ... 50 mm²)
— single or multi-stranded		2x (2,5 ... 16 mm²)
— finely stranded with core end processing		2x (2.5 ... 35 mm²)
— finely stranded without core end processing		2x (10 ... 35 mm²)
• for AWG conductors for main contacts		2x (10 ... 1/0)
• for auxiliary contacts		
— solid		2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²)
— finely stranded with core 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), 1x 12
Mechanical data:		
Size of contactor		S3
Ambient conditions:		
Installation altitude at height above sea level maximum	m	2 000

Ambient temperature		
• during operation	°C	-25 ... +60
• during storage	°C	-55 ... +80

Certificates/ approvals:

General Product Approval				Functional Safety/Safety of Machinery	Declaration of Conformity
				Type Examination	
CCC	CSA	EAC	UL		EG-Konf.

Test Certificates	Shipping Approval				
Special Test Certificate	ABS	GL	LRS	RINA	RMRS

other		
Environmental Confirmations	Confirmation	other

Further information

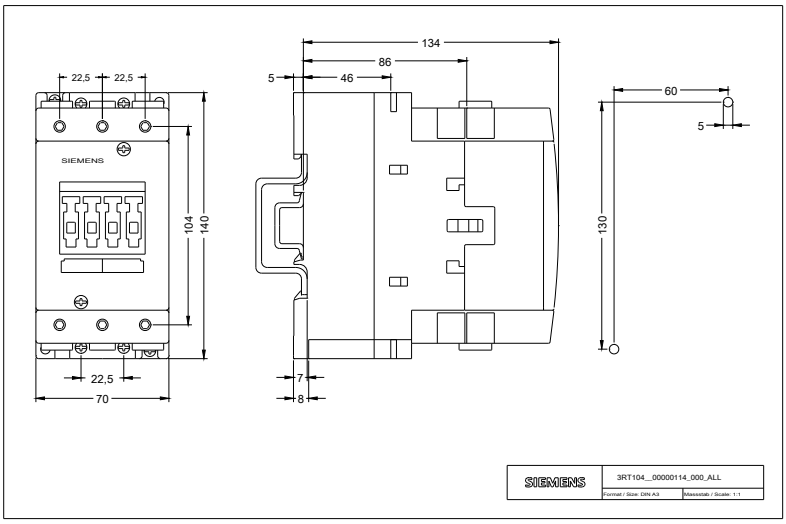
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

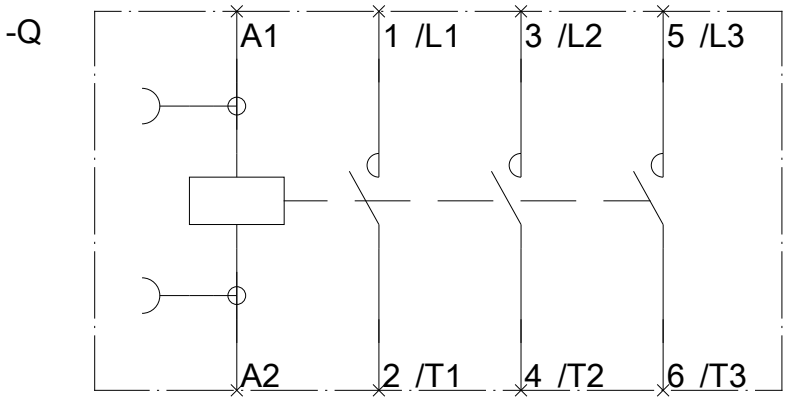
Industry Mall (Online ordering system)
http://www.siemens.com/industrymall

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT14461AN20

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3RT14461AN20/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=3RT14461AN20&lang=en





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