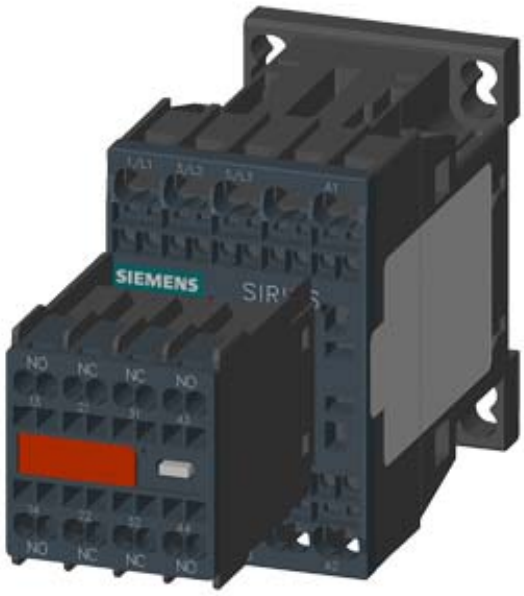
SIEMENS

Product data sheet 3RT2018-2FB44-3MA0



CONTACTOR, AC-3, 7.5KW/400V, 2NO+2NC,
DC 24V, W. INTEGRATED DIODE 3-POLE,
SZ S00 SPRING-LOADED TERMINAL PERMANENT AUX.
SWITCH

General technical data:		
product brand name		SIRIUS
Size of contactor		S00
Product expansion		
• Auxiliary switch		No
• function module for communication		No
Protection class IP / on the front		IP20
Protection against electrical shock		finger-safe
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
Shock resistance		
• at rectangular impulse		
• for DC		7.3g / 5 ms, 4.7g / 10 ms
• with sine pulse		
• for DC		11,4g / 5 ms, 7,3g / 10 ms
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
• of the contactor with added electronics-compatible auxiliary switch block / typical		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	4
• at 60 °C / minimum permissible	mm²	2.5
Operating current		
• at AC-1 / up to 690 V		
• at ambient temperature 40 °C / Rated value	A	22
• at ambient temperature 60 °C / Rated value	A	20
• at AC-2 / at 400 V / Rated value	A	16
• at AC-3		
• at 400 V / Rated value	A	16
• at 500 V / Rated value	A	12.4
• at 690 V / Rated value	A	8.9
• at AC-4 / at 400 V / Rated value	A	11.5
Operating current / for ≥ 200000 operating cycles / at AC-4		
• at 400 V / Rated value	A	5.5
• at 690 V / Rated value	A	4.4
Operating current		
• with 1 current path / at DC-1		
• at 24 V / Rated value	A	20
• at 110 V / Rated value	A	2.1
• at 220 V / Rated value	A	0.8
• at 440 V / Rated value	A	0.6
• at 600 V / Rated value	A	0.6
• with 2 current paths in series / at DC-1		
• at 24 V / Rated value	A	20
• at 110 V / Rated value	A	12
• at 220 V / Rated value	A	1.6
• at 440 V / Rated value	A	0.8
• at 600 V / Rated value	A	0.7

• with 3 current paths in series / at DC-1		
• at 24 V / Rated value	A	20
• at 110 V / Rated value	A	20
• at 220 V / Rated value	A	20
• at 440 V / Rated value	A	1.3
• at 600 V / Rated value	A	1
Operating current		
• with 1 current path / at DC-3 / at DC-5		
• at 24 V / Rated value	A	20
• at 110 V / Rated value	A	0.1
• with 2 current paths in series / at DC-3 / at DC-5		
• at 24 V / Rated value	A	20
• at 110 V / Rated value	A	0.35
• with 3 current paths in series / at DC-3 / at DC-5		
• at 24 V / Rated value	A	20
• at 110 V / Rated value	A	20
• at 220 V / Rated value	A	1.5
• at 440 V / Rated value	A	0.2
• at 600 V / Rated value	A	0.2
Operating power		
• at AC-1 / at 230 V / Rated value	kW	7.5
• at AC-1 / at 400 V / Rated value	kW	13
• at AC-1 / at 690 V / Rated value	kW	22
• at AC-2		
• at 400 V / Rated value	kW	7.5
• at AC-3		
• at 230 V / Rated value	kW	4
• at 400 V / Rated value	kW	7.5
• at 690 V / Rated value	kW	7.5
• at AC-4		
• at 400 V / Rated value	kW	5.5
Operating power / for ≥ 200000 operating cycles / at AC-4		
• at 400 V / Rated value	kW	2.5
• at 690 V / Rated value	kW	3.5
Thermal short-time current / restricted to 10 s	A	128
Active power loss / at AC-3 / at 400 V / for rated value of the operating current / per conductor	W	2.2
No-load switching frequency		
• for DC	1/h	10,000
Operating frequency		

• at AC-1 / maximum	1/h	1,000
• at AC-2 / maximum	1/h	750
• at AC-3 / maximum	1/h	750
• at AC-4 / maximum	1/h	250

Control circuit/ Control:		
Design of the surge suppressor		with diode
Type of voltage / of the control supply voltage		DC
Control supply voltage		
• for DC / Rated value	V	24
Operating range factor control supply voltage rated value / of the magnet coil		
• for DC		0.8 … 1.1
Pick-up power / of the magnet coil / for DC	W	4
Holding power / of the magnet coil / for DC	W	4
Closing delay		
• for DC	ms	30 … 100
Opening delay		
• for DC	ms	7 … 13
Arcing time	ms	10 … 15
Residual current / of the electronics / for control with signal <0>		
• with AC / at 230 V / maximum permissible	mA	4
• for DC / at 24 V / maximum permissible	mA	10

Auxiliary circuit:		
Contact reliability / of the auxiliary contacts		1 faulty switching per 100 million (17 V, 1 mA)
Number of NC contacts / for auxiliary contacts / instantaneous contact		2
Number of NO contacts / for auxiliary contacts / instantaneous contact		2
Operating current		
• at AC-12 / maximum	A	10
• at AC-15		
• at 230 V / Rated value	A	6
• at 400 V / Rated value	A	3
• at 500 V / Rated value	A	2
• at 690 V / Rated value	A	1
Operating current / at DC-12		
• at 24 V / Rated value	A	10
• at 48 V / Rated value	A	6
• at 60 V / Rated value	A	6

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

UL/CSA ratings:

yielded mechanical performance [hp]		
• for single-phase AC motor		
• at 110/120 V / Rated value	hp	1
• at 230 V / Rated value	hp	2
• for three-phase AC motor		
• at 200/208 V / Rated value	hp	3
• at 220/230 V / Rated value	hp	5
• at 460/480 V / Rated value	hp	10
• at 575/600 V / Rated value	hp	10
Full-load current (FLA) / for three-phase AC motor		
• at 480 V / Rated value	A	14
• at 600 V / Rated value	A	11
Contact rating / of the auxiliary contacts / acc. to UL		A600 / Q600

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		
• with type of assignment 1 / required		gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 A
• with type of assignment 2 / required		gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 20A

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
Mounting type / Side-by-side mounting		Yes
Width	mm	45
Height	mm	69.5
Depth	mm	121
Spacing required with side-by-side mounting / at the side	mm	0

Connections/ terminals:

Design of the electrical connection		
• for main current circuit		spring-loaded terminals
• for auxiliary and control current circuit		spring-loaded terminals
Type of connectable conductor cross-section		
• for main contacts		
• single or multi-stranded		2x (0,5 ... 4 mm²)
• finely stranded / with core end processing		2x (0.5 ... 2.5 mm²)
• finely stranded / without core end processing		2x (0.5 ... 2.5 mm²)
• for AWG conductors / for main contacts		2x (20 ... 12)
Type of connectable conductor cross-section		
• for auxiliary contacts		
• single or multi-stranded		2x (0,5 ... 4 mm²)
• finely stranded / with core end processing		2x (0.5 ... 2.5 mm²)
• finely stranded / without core end processing		2x (0.5 ... 2.5 mm²)
• for AWG conductors / for auxiliary contacts		2x (20 ... 12)

Safety related data:

B10 value / with high demand rate		
• acc. to SN 31920		1,000,000
T1 value / for proof test interval or service life		
• acc. to IEC 61508	a	20
Proportion of dangerous failures		
• with low demand rate / acc. to SN 31920	%	40
• with high demand rate / acc. to SN 31920	%	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
• positively driven operation acc. to IEC 60947-5-1		No

Certificates/ approvals:

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

Test Certificates

Special Test Certificate

Shipping Approval

ABS | BUREAU VERITAS | DNV | GL | LRS | PRS

Shipping Approval		other		
RINA	RMRS	Confirmation	VDE	Environmental Confirmations

Further information:

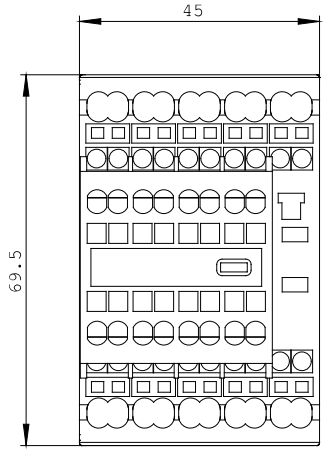
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

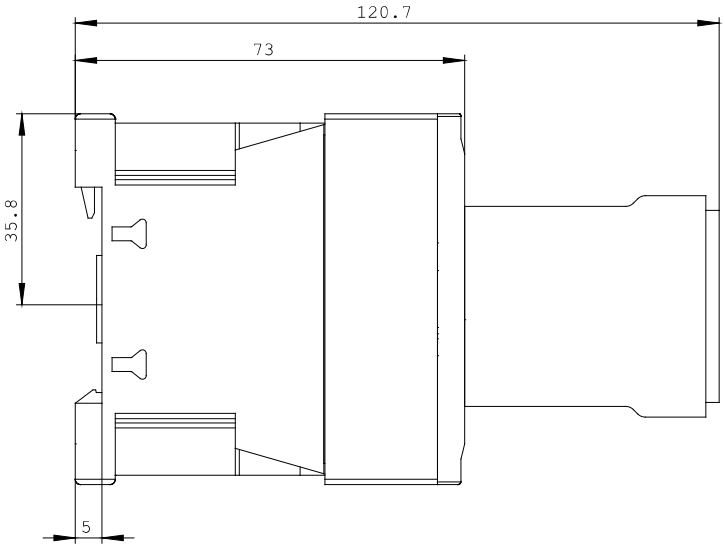
Industry Mall (Online ordering system)
http://www.siemens.com/industrymall

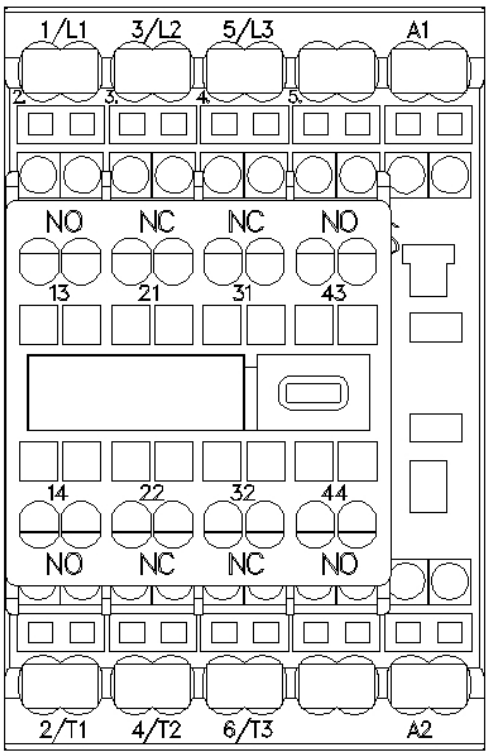
Cax online generator
http://www.siemens.com/cax

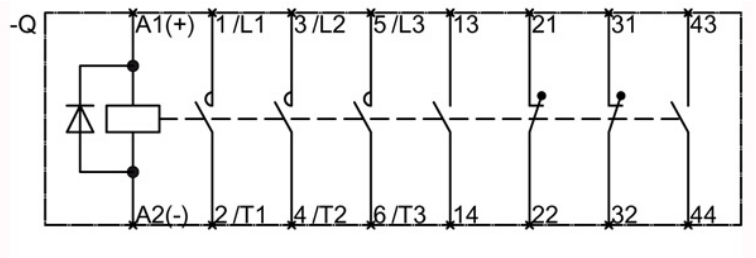
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3RT2018-2FB44-3MA0/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2018-2FB44-3MA0









last change: Oct 8, 2014