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 PRODUCT-DETAILS

# AF305-40-22-12

## AF305-40-22-12 Contactor




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**General Information**

Extended Product Type	AF305-40-22-12
Product ID	1SFL587102R1222
EAN	7320500505021
Catalog Description	AF305-40-22-12 Contactor

Long Description	<p>The AF305-40-22-12 is a 4 pole - 1000 V IEC or 600 V UL contactor with pre-mounted auxiliary contacts and Main Circuit Bars, controlling motors up to 160 kW / 400 V AC (AC-3) / and switching power circuits up to 500 A (AC-1) or 350 A UL general use. Thanks to the AF technology, the contactor has a wide control voltage range (48-130 V 50/60 Hz and DC), managing large control voltage variations, reducing panel energy consumptions and ensuring distinct operations in unstable networks. Furthermore, surge protection is built-in, offering a compact solution. AF contactors have a block type design, can be easily extended with add-on auxiliary contact blocks and an additional wide range of accessories. Includes Mounting kit, containing all necessary screws, washers and sockets for connecting the terminals, and screws for mounting the device.</p>
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**Ordering**

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

### Popular Downloads

EPLAN Data	9AAC175203_EPLAN
Data Sheet, Technical Information	1SBC100214C0202
Data Sheet, Technical Information (Part 2)	1SAC200017M0002
Instructions and Manuals	1SFC100008M0201
CAD Dimensional Drawing	2CDC001079B0201

### Dimensions

Product Net Width	184 mm
Product Net Depth / Length	180 mm
Product Net Height	225 mm
Product Net Weight	5.7 kg
Dimension Diagram	1SFB535001G1123

### Technical

Number of Main Contacts NO	4
Number of Main Contacts NC	0
Number of Auxiliary Contacts NO	2
Number of Auxiliary Contacts NC	2
Number of Poles	4P
Rated Operational Voltage	Main Circuit 1000 V
Rated Frequency (f)	Main Circuit 60 Hz Main Circuit 50 / 60 Hz
Conventional Free-air Thermal Current (I <sub>th</sub> )	acc. to IEC 60947-4-1, Open Contactors $\Theta = 40\text{ °C}$ 500 A
Rated Operational Current AC-1 (I <sub>e</sub> )	(1000 V) 40 °C 375 A (1000 V) 60 °C 325 A (1000 V) 70 °C 260 A (690 V) 40 °C 500 A (690 V) 60 °C 400 A (690 V) 70 °C 325 A
Rated Operational Current AC-3 (I <sub>e</sub> )	(415 V) 55 °C 305 A (440 V) 55 °C 305 A (380 / 400 V) 55 °C 305 A (220 / 230 / 240 V) 55 °C 305 A
Rated Operational Power AC-3 (P <sub>e</sub> )	(415 V) 160 kW (440 V) 160 kW (380 / 400 V) 160 kW (220 / 230 / 240 V) 90 kW
Rated Breaking Capacity AC-3	8 x I <sub>e</sub> AC-3
Rated Breaking Capacity AC-3e	8.5 x I <sub>e</sub> AC-3e
Rated Making Capacity AC-3	10 x I <sub>e</sub> AC-3

Rated Making Capacity AC-3e	12 x Ie AC-3e
Short-Circuit Protective Devices	gG Type Fuses 630 A
Rated Short-time Withstand Current Low Voltage ( $I_{cw}$ )	at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 500 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 1409 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 3050 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 2440 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 996 A
Maximum Breaking Capacity	$\cos \phi = 0.45$ ( $\cos \phi = 0.35$ for $I_e > 100$ A) at 440 V 4600 A
Rated Insulation Voltage ( $U_i$ )	acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V acc. to UL/CSA 600 V
Rated Impulse Withstand Voltage ( $U_{imp}$ )	Main Circuit 8 kV
Maximum Electrical Switching Frequency	(AC-1) 300 cycles per hour (AC-3) 300 cycles per hour
Mechanical Durability	5 million
Maximum Mechanical Switching Frequency	300 cycles per hour
Coil Operating Limits	(acc. to IEC 60947-4-1) 0.85 x $U_c$ Min. ... 1.1 x $U_c$ Max. (at $\theta \leq 70$ °C)
Rated Control Circuit Voltage ( $U_c$ )	50 Hz 48 ... 130 V 60 Hz 48 ... 130 V DC Operation 48 ... 130 V
Coil Consumption	Holding at Max. Rated Control Circuit Voltage 50 Hz 17 V-A Holding at Max. Rated Control Circuit Voltage 60 Hz 17 V-A Holding at Max. Rated Control Circuit Voltage DC 2.5 V-A Holding at Max. Rated Control Circuit Voltage DC 2.5 W Pull-in at Max. Rated Control Circuit Voltage 50 Hz 340 V-A Pull-in at Max. Rated Control Circuit Voltage 60 Hz 340 V-A Pull-in at Max. Rated Control Circuit Voltage DC 360 V-A Pull-in at Max. Rated Control Circuit Voltage DC 360 W
Power Loss	50 W at Rated Operating Conditions per Pole 50 W
Operate Time	Between Coil De-energization and NO Contact Opening 45 ... 80 ms Between Coil Energization and NO Contact Closing 30 ... 60 ms
Connecting Capacity Main Circuit	Flexible 2 x 70 ... 185 mm <sup>2</sup> Rigid Al-Cable 1 x 185 ... 240 mm <sup>2</sup> Rigid Cu-Cable 2 x 70 ... 185 mm <sup>2</sup>
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup> Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup> Flexible 2x0.75 ... 2.5 mm <sup>2</sup> Solid 2 x 1 ... 4 mm <sup>2</sup> Stranded 1 x 1 ... 4 mm <sup>2</sup> Stranded 2 x 1 ... 4 mm <sup>2</sup>
Connecting Capacity	Flexible 2 x 70 ... 185 mm <sup>2</sup> Rigid Cu-Cable 2 x 70 ... 185 mm <sup>2</sup>
Degree of Protection	acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP40 acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP00
Tightening Torque	Cable Lug 9 N-m Main Circuit 22 ... 43 N-m
Terminal Type	Main Circuit: Bars
Product Name	Block Contactor

## Technical UL/CSA

Maximum Operating Voltage UL/CSA	Main Circuit 600 V
General Use Rating UL/CSA	(1000 V AC) 400 A

Horsepower Rating	(200 ... 208 V AC) Three Phase 40 Hp
UL/CSA	(200 V AC) Three Phase 100 hp
	(208 V AC) Three Phase 100 hp
	(220 ... 240 V AC) Three Phase 50 Hp
	(220 ... 240 V AC) Three Phase 125 hp
	(440 ... 480 V AC) Three Phase 100 Hp
	(440 ... 480 V AC) Three Phase 250 hp
	(550 ... 600 V AC) Three Phase 150 Hp
	(550 ... 600 V AC) Three Phase 300 hp

**Environmental**

Ambient Air Temperature	Close to Contactor Fitted with Thermal O/L Relay (0.85 ... 1.1 Uc) -25 ... 50 °C
	Close to Contactor Fitted with Thermal O/L Relay (0.85 ... 1.1 Uc) -25 ... 55 °C
	Close to Contactor without Thermal O/L Relay (0.85 ... 1.1 Uc) -40 ... 70 °C
	Close to Contactor for Storage -40 ... 70 °C
Maximum Operating Altitude Permissible	Without Derating 3000 m

**Material Compliance**

Conflict Minerals Reporting Template (CMRT)	9AKK108467A5658
REACH Declaration	2CMT2021-006202
RoHS Declaration	2CMT2021-006277
RoHS Information	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019
Toxic Substances Control Act - TSCA	2CMT2023-006525
WEEE B2C / B2B	Business To Business
WEEE Category	5. Small Equipment (No External Dimension More Than 50 cm)

**ABB EcoSolutions**

ABB EcoSolutions	Yes
ABB Site Meeting Group Waste To Landfill Target	Non-hazardous waste is sent to a landfill, where there is no alternative option available within 100km of a facility
End Of Life Disassembling Instructions	1SFC100112M0002
Environmental Product Declaration - EPD	1SFC100104D0201
Improved Energy Efficiency for Customers	Product Efficiency - Product considered more energy-efficient compared to similar product on market or older products from the same line
Recyclability Rate of the Product acc. to EN45555	Design for Closing Resource Loops - Standard EN45555 - 76.3 %
Sustainable Material Content in Product (wt. %)	Recycled Metal - 33 %

**Certificates and Declarations**

A2L Certificate – UL	9AKK108468A6695
ABS Certificate	14-LD1092198-PDA
BV Certificate	BV_36353_A0BV
CB Certificate	SEMKO_SE-73326

CQC Certificate	CQC2014010304676670
Declaration of Conformity - CCC	2020980304001305
Declaration of Conformity - CE	2CMT2015-005439
Declaration of Conformity - UKCA	2CMT2020-006118
EAC Certificate	9AKK107046A8618
LR Certificate	LR_14_70011(E1)
PRS Certificate	TE_2092_880423_16
RINA Certificate	ELE060313XG_002
RMRS Certificate	9AKK107045A6978
UL Certificate	20140910-E73397

## Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	212 mm
Package Level 1 Depth / Length	262 mm
Package Level 1 Height	212 mm
Package Level 1 Gross Weight	6.4 kg
Package Level 1 EAN	7320500505021

## External Classifications and Standards

Object Classification Code	Q
ETIM 7	EC000066 - Power contactor, AC switching
ETIM 8	EC000066 - Power contactor, AC switching
ETIM 9	EC000066 - Power contactor, AC switching
eClass	V11.0 : 27371003
UNSPSC	39121529
IDEA Granular Category Code (IGCC)	4758 >> lec Contactors
E-Number (Finland)	3707236

## Accessories

Identifier	Description	Type	Quantity	Unit Of Measure
1SFN010820R1011	CAL19-11 Auxiliary Contact Block	CAL19-11	1	piece
1SFN010820R3311	CAL19-11B Auxiliary Contact Block	CAL19-11B	1	piece
1SFN010832R1001	CEL19-01 Auxiliary Contact Block	CEL19-01	1	piece
1SFN010832R1010	CEL19-10 Auxiliary Contact Block	CEL19-10	1	piece
1SFN074208R2000	LD146-40 Connection Module	LD146-40	1	piece
1SFN124203R2000	LT140-40L Terminal Shroud	LT140-40L	1	piece
1SFN124801R2000	LT205-40C Terminal Shroud	LT205-40C	1	piece
1SFN074807R2000	LW205-40 Terminal Enlargement	LW205-40	1	piece
1SFN124803R2000	LT205-40L Terminal Shroud	LT205-40L	1	piece
1SFN075407R2000	LW370-40 Terminal Enlargement	LW370-40	1	piece
1SFN125401R2000	LT370-40C Terminal Shroud	LT370-40C	1	piece
1SFN125403R2000	LT370-40L Terminal Shroud	LT370-40L	1	piece

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## Categories

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Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF305

