



PRODUCT-DETAILS

AF146-30-11-12

AF146-30-11-12 Contactor



General Information	
Extended Product Type	AF146-30-11-12
Product ID	1SFL467001R1211
EAN	7320500481981
Catalog Description	AF146-30-11-12 Contactor
Long Description	The AF146-30-11-12 is a 3 pole - 1000 V IEC or 600 V UL contactor with pre-mounted auxiliary contacts and double clamp, controlling motors up to 75 kW / 400 V AC (AC-3) or 100 hp / 480 V UL and switching power circuits up to 225 A (AC-1) or 200 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.

Ordering	
Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

Popular Downloads	
Data Sheet, Technical Information	1SBC100192C0206
Instructions and Manuals	1SFC100003M0201
CAD Dimensional Drawing	2CDC001079B0201
Dimension Diagram	1SFB535001G1051

Dimensions	
Product Net Width	90 mm
Product Net Depth / Length	126 mm
Product Net Height	150 mm
Product Net Weight	1.55 kg

Technical	
Number of Main Contacts NO	3
Number of Main Contacts NC	0
Number of Auxiliary Contacts NO	1
Number of Auxiliary Contacts NC	1
Rated Operational Voltage	Main Circuit 1000 V
Rated Frequency (f)	Main Circuit 50 / 60 Hz
Conventional Free-air Thermal Current (I _{th})	acc. to IEC 60947-4-1, Open Contactors Θ = 40 °C 225 A
Rated Operational Current AC-1 (I _e)	(1000 V) 40 °C 225 A (1000 V) 55 °C 200 A (1000 V) 60 °C 200 A (1000 V) 70 °C 175 A (690 V) 40 °C 225 A (690 V) 55 °C 200 A (690 V) 60 °C 200 A (690 V) 70 °C 175 A
Rated Operational Current AC-3 (I _e)	(415 V) 55 °C 146 A (440 V) 55 °C 146 A (500 V) 55 °C 130 A (690 V) 55 °C 93 A (1000 V) 55 °C 60 A (380 / 400 V) 55 °C 146 A (220 / 230 / 240 V) 55 °C 146 A
Rated Operational Current AC-3e (I _e)	(415 V) 60 °C 146 A (440 V) 60 °C 146 A (500 V) 60 °C 130 A (690 V) 60 °C 93 A (1000 V) 60 °C 54 A (380 / 400 V) 60 °C 146 A (220 / 230 / 240 V) 60 °C 146 A
Rated Operational Power AC-3 (P _e)	(415 V) 75 kW (440 V) 90 kW (500 V) 90 kW (690 V) 90 kW (1000 V) 75 kW (380 / 400 V) 75 kW (220 / 230 / 240 V) 45 kW

Rated Operational Power AC-3e (P _e)	(415 V) 75 kW (440 V) 90 kW (500 V) 90 kW (690 V) 90 kW (1000 V) 75 kW (380 / 400 V) 75 kW (220 / 230 / 240 V) 45 kW
Rated Breaking Capacity AC-3	8 x I _e AC-3
Rated Breaking Capacity AC-3e	8.5 x I _e AC-3e
Rated Making Capacity AC-3	10 x I _e AC-3
Rated Making Capacity AC-3e	12 x I _e AC-3e
Short-Circuit Protective Devices	gG Type Fuses 315 A
Rated Short-time Withstand Current Low Voltage (I _{cw})	at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 1168 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 200 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 477 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1460 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 674 A
Maximum Breaking Capacity	cos phi=0.45 (cos phi=0.35 for I _e > 100 A) at 440 V 3000 A cos phi=0.45 (cos phi=0.35 for I _e > 100 A) at 690 V 1500 A
Maximum Electrical Switching Frequency	(AC-1) 300 cycles per hour (AC-2 / AC-4) 150 cycles per hour (AC-3) 300 cycles per hour
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
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 θ ≤ 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 4 V-A Holding at Max. Rated Control Circuit Voltage 60 Hz 4 V-A Holding at Max. Rated Control Circuit Voltage DC 2.5 W Pull-in at Max. Rated Control Circuit Voltage 50 Hz 180 V-A Pull-in at Max. Rated Control Circuit Voltage 60 Hz 180 V-A Pull-in at Max. Rated Control Circuit Voltage DC 150 W
Operate Time	Between Coil De-energization and NO Contact Opening 37 ... 47 ms Between Coil Energization and NO Contact Closing 25 ... 55 ms
Connecting Capacity Main Circuit	Flexible 1 x 10 ... 70 mm ² Rigid Cu-Cable 2 x 10 ... 95 mm ²
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 1x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm ² Flexible 1x0.75 ... 2.5 mm ² Solid 2 x 1 ... 4 mm ² Stranded 2 x 1 ... 4 mm ²
Degree of Protection	acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP00
Terminal Type	Double Clamp

Technical UL/CSA

Maximum Operating Voltage UL/CSA	Main Circuit 1000 V
-------------------------------------	---------------------

General Use Rating	(600 V AC) 200 A
UL/CSA	
Horsepower Rating	(200 V AC) Three Phase 40 hp
UL/CSA	(208 V AC) Three Phase 40 hp
	(220 ... 240 V AC) Three Phase 50 hp
	(440 ... 480 V AC) Three Phase 100 hp
	(550 ... 600 V AC) Three Phase 125 hp

Environmental

Ambient Air	Close to Contactor Fitted with Thermal O/L Relay (0.85 ... 1.1 Uc) -25 ... 50 °
Temperature	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	Without Derating 3000 m
Altitude Permissible	

Material Compliance

Conflict Minerals	9AKK108467A5658
Reporting Template (CMRT)	
REACH Declaration	2CMT2021-006202
RoHS Information	2CMT2021-006277
RoHS Status	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)

Circular Value

ABB EcoSolutions	Yes
Circular Design	Design for Closing Resource Loops - Standard EN45555 - 87.8 %
Principles Recyclability Rate	
End of Life Instructions	1SFC100112M0001
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
Improved Resource Efficiency for Customers	Product Efficiency - Product requires less energy to operate compared to similar product on market or older products from the same line
Sustainable Material Content	Recycled Metal - 37 %

Eco Transparency

Environmental Product Declaration - EPD	1SFC100092D0201
---	-----------------

Certificates and Declarations

ABS Certificate	14-LD1092198-PDA
BV Certificate	BV_36353_A0BV
CB Certificate	SEMKO_SE-70479M1
CCS Certificate	GB14T00030

CQC Certificate	CQC2013010304604055
Declaration of Conformity - CCC	2020980304001304
Declaration of Conformity - CE	2CMT2015-005439
Declaration of Conformity - UKCA	2CMT2020-006118
DNV Certificate	DNV_E-14043
EAC Certificate	9AKK107046A8618
KC Certificate	9AKK107046A9910
LR Certificate	LR_14_70011(E1)
PRS Certificate	TE_2092_880423_16
RINA Certificate	ELE060313XG_002
RMRS Certificate	9AKK107045A6978
UL Certificate	20120925-E36588
UL Listing Card	UL_E36588

Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	207 mm
Package Level 1 Depth / Length	216 mm
Package Level 1 Height	150 mm
Package Level 1 Gross Weight	1.75 kg
Package Level 1 EAN	7320500481981

Classifications

Object Classification Code	Q
ETIM 4	EC000066 - Magnet contactor, AC-switching
ETIM 5	EC000066 - Magnet contactor, AC-switching
ETIM 6	EC000066 - Power contactor, AC switching
ETIM 7	EC000066 - Power contactor, AC switching
ETIM 8	EC000066 - Power contactor, AC switching
eClass	V11.0 : 27371003
UNSPSC	39121529
IDEA Granular Category Code (IGCC)	4758 >> lec Contactors
E-Number (Finland)	3706367
E-Number (Norway)	4117631

Accessories

Identifier	Description	Type	Quantity	Unit Of Measure
1SFN034403R1000	VM140/190 Mechanical Interlock Unit	VM140/190	1	piece
1SFN074203R1000	LY140 Connecting Strip	LY140	1	piece
1SFN074207R1000	LW140 Terminal Enlargement	LW140	1	piece
1SFN074208R1000	LD146-30 Connection Module	LD146-30	1	piece
1SFN074210R1000	LX140 Terminal Extension	LX140	1	piece
1SFN074211R1000	LL146-30 Connection Socket	LL146-30	1	piece
1SFN084206R1000	BEA140/XT2 Connection Set	BEA140/XT2	1	piece
1SFN084206R1001	BEA140/XT4 Connection Set	BEA140/XT4	1	piece
1SFN084206R1002	BEA140/XT3 Connection Set	BEA140/XT3	1	piece
1SFN084211R1000	BER140-4 Connection Set	BER140-4	1	piece
1SFN084214R1000	BEP140-30 Connection Set	BEP140-30	1	piece
1SFN084413R1000	BEY140-4 Connection Set	BEY140-4	1	piece
1SFN094200R1000	PR146-1 Adapter Plate	PR146-1	1	piece
1SFN124203R1000	LT140-30L Terminal Shroud	LT140-30L	1	piece
1SFN074208R2000	LD146-40 Connection Module	LD146-40	1	piece
1SFN074211R2000	LL146-40 Connection Socket	LL146-40	1	piece
1SFN084214R2000	BEP140-40 Connection Set	BEP140-40	1	piece
1SFN124203R2000	LT140-40L Terminal Shroud	LT140-40L	1	piece

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF146

