



 PRODUCT-DETAILS

AF146-30-11-31

AF146-30-11-31 Contactor



General Information

Extended Product Type	AF146-30-11-31
Product ID	1SFL467001R3111
EAN	7320500560457
Catalog Description	AF146-30-11-31 Contactor

Long Description	<p>The AF146-30-11-31 is a 3 pole - 1000 V IEC or 600 V UL contactor with 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 (24-60 V 50/60 Hz and 20-60 V 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.</p>
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Ordering

Minimum Order Quantity	1 piece
Customs Tariff Number	8536490099

Popular Downloads

EPLAN Data	9AAC174540_EPLAN
Data Sheet, Technical Information	1SBC100214C0202
Data Sheet, Technical Information (Part 2)	1SAC200017M0002
Instructions and Manuals	1SFC100003M0201
CAD Dimensional Drawing	2CDC001079B0201

Dimensions

Product Net Width	90 mm
Product Net Depth / Length	138.5 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
Number of Poles	3P
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) 60 °C 200 A (1000 V) 70 °C 175 A (690 V) 40 °C 225 A (690 V) 60 °C 200 A (690 V) 70 °C 175 A
Rated Operational Current AC-3 (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 60 A (380 / 400 V) 60 °C 146 A (220 / 230 / 240 V) 60 °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 (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
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 225 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
Rated Insulation Voltage (U _i)	acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V acc. to UL/CSA 1000 V
Rated Impulse Withstand Voltage (U _{imp})	Main Circuit 8 kV
Maximum Electrical Switching Frequency	(AC-1) 300 cycles per hour (AC-2 / AC-4) 150 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 θ ≤ 70 °C)
Rated Control Circuit Voltage (U _c)	50 Hz 24 ... 60 V 60 Hz 24...60 V DC Operation 20...60 V
Coil Consumption	Holding at Max. Rated Control Circuit Voltage 50 Hz 4.9 V-A Holding at Max. Rated Control Circuit Voltage 50 Hz 2.5 W Holding at Max. Rated Control Circuit Voltage 60 Hz 4.9 V-A Holding at Max. Rated Control Circuit Voltage 60 Hz 2.5 W Holding at Max. Rated Control Circuit Voltage DC 2.7 V-A Holding at Max. Rated Control Circuit Voltage DC 2.7 W Pull-in at Max. Rated Control Circuit Voltage 50 Hz 305 V-A Pull-in at Max. Rated Control Circuit Voltage 60 Hz 305 V-A Pull-in at Max. Rated Control Circuit Voltage DC 420 V-A Pull-in at Max. Rated Control Circuit Voltage DC 420 W
Power Loss	at Rated Operating Conditions AC-1 per Pole 23 W at Rated Operating Conditions AC-3 per Pole 10 W
Operate Time	Between Coil De-energization and NO Contact Opening 40 ... 70 ms Between Coil Energization and NO Contact Closing 20 ... 55 ms
Connecting Capacity Main Circuit	Flexible 2 x 10 ... 70 mm ² Rigid Cu-Cable 1 x 10 ... 95 mm ²
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 1x 0.75 ... 2.5 mm ² Flexible with Ferrule 2x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm ² Flexible 1x 0.75 ... 2.5 mm ² Flexible 2x 0.75 ... 2.5 mm ² Solid 1x 1 ... 4 mm ² Solid 2x 1 ... 4 mm ² Stranded 1x 1 ... 4 mm ² Stranded 2x 1 ... 4 mm ²
Connecting Capacity	Flexible 1 x 10 ... 70 mm ²

	Flexible 2 x 10 ... 70 mm ² Rigid Cu-Cable 1 x 10 ... 95 mm ²
Wire Stripping Length	Auxiliary Circuit 9 mm Control Circuit 9 mm
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
Recommended Screw Driver	Main Circuit M6 Control Circuit M3.5
Tightening Torque	Auxiliary Circuit 1 N-m Cable Lug 9 N-m Control Circuit 1 N-m Main Circuit 8 N-m
Terminal Type	Double Clamp
Product Name	Block Contactor

Technical UL/CSA

Maximum Operating Voltage UL/CSA	Main Circuit 1000 V
General Use Rating UL/CSA	(1000 V AC) 200 A
Horsepower Rating UL/CSA	(200 ... 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
Tightening Torque UL/CSA	Auxiliary Circuit 9 in-lb Control Circuit 9 in-lb Main Circuit 71 in-lb
Full Load Amps Motor Use	(200 ... 208 V AC) Three Phase 120 A (220 ... 240 V AC) Three Phase 130 A (440 ... 480 V AC) Three Phase 124 A (550 ... 600 V AC) Three Phase 125 A

Environmental

Ambient Air Temperature	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
SCIP	e94a9eb3-1d17-4c71-861e-88072ddcb50d Sweden
Simplified SCIP	ddb90243-8dd1-4aed-b4f6-fe16dd404882 France 58ed24c2-bc6d-4d1b-8897-a8cf47992e97 Germany 3db96d0b-9188-41e3-a81e-3bf30dd7a7ef Sweden d6d61aca-67ff-4d9e-ad6d-5194c43c9f24 Portugal 1e266444-f260-4c9e-ab32-b1b4958ca710 Netherlands 52c2c969-84e9-4eea-b8ab-0cf69f840933 Germany 7dd4f791-d7ea-4040-89b3-14bc85d64c6c Germany 7c2f6a1e-b40d-416f-bc4d-5af591b6e285 Poland 459cc443-119f-4b47-bfab-2147b82a42dd Greece

537b8144-3136-43c6-9a58-5322e99e42b0 Estonia
 1bd415c7-8052-4897-b977-ede23ad8abe3 Hungary
 b18bbc5c-101b-4b68-9578-2f07e5b72207 Germany
 f7dc297b-ab01-4fc9-840c-db672f6566b8 Bulgaria
 0816db37-f66c-4621-ba1b-f2e5665b072f Poland
 717d69fe-eed6-4579-82aa-c439973f9521 Croatia
 a93bfe51-c354-434d-b28d-ef5cebfe3bf Czech Republic
 0474127b-d5da-475c-855b-807c9107f900 Poland
 53af0e3e-5f29-42b7-b71c-d4fd2527634d Italy
 78dbc5a6-e017-4e67-a12c-3aa07ee88e15 Germany
 c1c8fb74-f160-4f41-a631-a4ab35c4dce7 Finland
 25df196e-3e43-408e-9128-b4b1b06e7e13 Norway
 a7d174cd-46e8-4b75-9ada-e55afdf580ec Denmark
 9fe1b4c7-991c-4e10-8276-4bb2d4c4d589 Belgium
 5438f096-02ee-41e2-ab95-81d0330ec3a7 Spain
 841fcb52-4d9c-4d13-b9d3-a21bd99c97e4 Hungary
 57085147-38ff-4955-86ee-f013a8f03045 Belgium
 ba58dc0b-f593-4c30-aa07-5c40ba81faf6 France

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

End Of Life Disassembling Instructions	1SFC100112M0001
Environmental Product Declaration - EPD	1SFC100092D0201

Certificates and Declarations

A2L Certificate – UL	9AKK108468A6693
ABS Certificate	14-LD1092198-PDA
Declaration of Conformity - CE	2CMT2015-005439
Declaration of Conformity - UKCA	2CMT2020-006118
UL Certificate	20120925-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	7320500560457

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 >> Iec Contactors

Categories

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

