



PRODUCT-DETAILS**AF146-30-11B-31****AF146-30-11B-31 Contactor**

General Information

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| Extended Product Type | AF146-30-11B-31 |
| Product ID | 1SFL467002R3111 |
| EAN | 7320500561607 |
| Catalog Description | AF146-30-11B-31 Contactor |
| Long Description | <p>The AF146-30-11B-31 is a 3 pole - 1000 V IEC or 600 V UL contactor with Main Circuit Bars, 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> |

Ordering

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| Minimum Order Quantity | 1 piece |
| Customs Tariff Number | 8536490099 |

Popular Downloads

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| 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

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| Product Net Width | 90 mm |
| Product Net Depth / Length | 138.5 mm |
| Product Net Height | 150 mm |
| Product Net Weight | 1.3 kg |

Technical

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| 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 |

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| | | (220 / 230 / 240 V) 45 kW |
| Rated Operational Power AC-3e (Pe) | | (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 le AC-3 |
| Rated Breaking Capacity AC-3e | | 8.5 x le AC-3e |
| Rated Making Capacity AC-3 | | 10 x le AC-3 |
| Rated Making Capacity AC-3e | | 12 x le AC-3e |
| Rated Short-time Withstand Current Low Voltage (Icw) | | 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 le > 100 A) at 440 V 3000 A cos phi=0.45 (cos phi=0.35 for le > 100 A) at 690 V 1500 A |
| Rated Insulation Voltage (Ui) | | acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V acc. to UL/CSA 1000 V |
| Rated Impulse Withstand Voltage (Uimp) | | 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 Uc Min. ... 1.1 x Uc Max. (at θ ≤ 70 °C) |
| Rated Control Circuit Voltage (Uc) | | 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 |

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

Technical UL/CSA

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| 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

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| 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

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| 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

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| ABB EcoSolutions | Yes |
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| 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 UL 2799 Zero Waste To Landfill Validation available |
| End Of Life Disassembling Instructions | 1SFC100112M0001 |
| Environmental Product Declaration - EPD | 1SFC100092D0201 |
| Improved Energy Efficiency for Customers | Product Efficiency - Product requires less energy to operate compared to similar product on market or older products from the same line 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 - 87.8 % |

Certificates and Declarations

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|-------------------------------------|------------------|
| 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

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|-----------------------------------|---------------|
| 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 | 1.5 kg |
| Package Level 1 EAN | 7320500561607 |

External Classifications and Standards

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| 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



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