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 PRODUCT-DETAILS

# AF140-30-11B-31

## AF140-30-11B-31 Contactor




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**General Information**

|                       |                           |
|-----------------------|---------------------------|
| Extended Product Type | AF140-30-11B-31           |
| Product ID            | 1SFL447002R3111           |
| EAN                   | 7320500561539             |
| Catalog Description   | AF140-30-11B-31 Contactor |

|                  |  |
|------------------|--|
| Long Description | <p>The AF140-30-11B-31 is a 3 pole - 690 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 200 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                                 | 9AAC174539_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         | 1.3 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 690 V  |
| Rated Frequency (f)                                      | Main Circuit 50 / 60 Hz   |
| Conventional Free-air Thermal Current (I <sub>th</sub> ) | acc. to IEC 60947-4-1, Open Contactors $\Theta = 40\text{ °C}$ 200 A  |
| Rated Operational Current AC-1 (I <sub>e</sub> )         | (690 V) 40 °C 200 A<br>(690 V) 60 °C 175 A<br>(690 V) 70 °C 160 A   |
| Rated Operational Current AC-3 (I <sub>e</sub> )         | (415 V) 60 °C 140 A<br>(440 V) 60 °C 140 A<br>(500 V) 60 °C 130 A<br>(690 V) 60 °C 80 A<br>(380 / 400 V) 60 °C 140 A<br>(220 / 230 / 240 V) 60 °C 140 A |
| Rated Operational Current AC-3e (I <sub>e</sub> )        | (415 V) 60 °C 140 A<br>(440 V) 60 °C 140 A<br>(500 V) 60 °C 130 A<br>(690 V) 60 °C 80 A<br>(380 / 400 V) 60 °C 140 A<br>(220 / 230 / 240 V) 60 °C 140 A |
| Rated Operational Power AC-3 (P <sub>e</sub> )           | (415 V) 75 kW<br>(440 V) 90 kW<br>(500 V) 90 kW<br>(690 V) 75 kW<br>(380 / 400 V) 75 kW<br>(220 / 230 / 240 V) 37 kW                                    |
| Rated Operational Power AC-3e (P <sub>e</sub> )          | (415 V) 75 kW<br>(440 V) 90 kW<br>(500 V) 90 kW<br>(690 V) 75 kW  |

|   |  |
|---|--|
|   | (380 / 400 V) 75 kW<br>(220 / 230 / 240 V) 37 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 I <sub>e</sub> AC-3e  |
| Rated Short-time Withstand Current Low Voltage (I <sub>cw</sub> ) | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 1168 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 200 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 477 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1460 A<br>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 <sub>e</sub> > 100 A) at 440 V 3000 A<br>cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 690 V 1500 A   |
| Rated Insulation Voltage (U <sub>i</sub> )                        | acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V<br>acc. to UL/CSA 1000 V   |
| Rated Impulse Withstand Voltage (U <sub>imp</sub> )               | Main Circuit 8 kV  |
| Maximum Electrical Switching Frequency                            | (AC-1) 300 cycles per hour<br>(AC-2 / AC-4) 150 cycles per hour<br>(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 <sub>c</sub> Min. ... 1.1 x U <sub>c</sub> Max. (at θ ≤ 70 °C)  |
| Rated Control Circuit Voltage (U <sub>c</sub> )                   | 50 Hz 24 ... 60 V<br>60 Hz 24...60 V<br>DC Operation 20...60 V   |
| Coil Consumption  | Holding at Max. Rated Control Circuit Voltage 50 Hz 4.9 V·A<br>Holding at Max. Rated Control Circuit Voltage 50 Hz 2.5 W<br>Holding at Max. Rated Control Circuit Voltage 60 Hz 4.9 V·A<br>Holding at Max. Rated Control Circuit Voltage 60 Hz 2.5 W<br>Holding at Max. Rated Control Circuit Voltage DC 2.7 V·A<br>Holding at Max. Rated Control Circuit Voltage DC 2.7 W<br>Pull-in at Max. Rated Control Circuit Voltage 50 Hz 305 V·A<br>Pull-in at Max. Rated Control Circuit Voltage 60 Hz 305 V·A<br>Pull-in at Max. Rated Control Circuit Voltage DC 420 V·A<br>Pull-in at Max. Rated Control Circuit Voltage DC 420 W |
| Power Loss  | at Rated Operating Conditions AC-1 per Pole 18 W<br>at Rated Operating Conditions AC-3 per Pole 9 W  |
| Operate Time  | Between Coil De-energization and NO Contact Opening 40 ... 70 ms<br>Between Coil Energization and NO Contact Closing 20 ... 55 ms  |
| Connecting Capacity Main Circuit                                  | Flexible 2 x 10 ... 70 mm <sup>2</sup><br>Rigid Cu-Cable 1 x 10 ... 95 mm <sup>2</sup>   |
| Connecting Capacity Auxiliary Circuit                             | Flexible with Ferrule 1x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible 1x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible 2x 0.75 ... 2.5 mm <sup>2</sup><br>Solid 1x 1 ... 4 mm <sup>2</sup><br>Solid 2x 1 ... 4 mm <sup>2</sup><br>Stranded 1x 1 ... 4 mm <sup>2</sup><br>Stranded 2x 1 ... 4 mm <sup>2</sup>   |
| Connecting Capacity   | Flexible 1 x 10 ... 70 mm <sup>2</sup><br>Flexible 2 x 10 ... 70 mm <sup>2</sup><br>Rigid Cu-Cable 1 x 10 ... 95 mm <sup>2</sup>   |
| Wire Stripping Length   | Auxiliary Circuit 9 mm<br>Control Circuit 9 mm   |
| Degree of Protection  | acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP00   |

|                          |   |
|--------------------------|---|
| Recommended Screw Driver | Main Circuit M6<br>Control Circuit M3.5   |
| Tightening Torque        | Auxiliary Circuit 1 N·m<br>Cable Lug 9 N·m<br>Control Circuit 1 N·m<br>Main Circuit 8 N·m |
| Terminal Type            | Main Circuit: Bars  |
| Product Name             | Block Contactor   |

## Technical UL/CSA

|                                  |  |
|----------------------------------|--|
| NEMA Size                        | 4  |
| Continuous Current Rating NEMA   | 135 A  |
| Horsepower Rating NEMA           | (200 V AC) Three Phase 40 Hp<br>(230 V AC) Three Phase 50 Hp<br>(460 V AC) Three Phase 100 Hp<br>(575 V AC) Three Phase 100 Hp                                 |
| Maximum Operating Voltage UL/CSA | Main Circuit 600 V   |
| General Use Rating UL/CSA        | (600 V AC) 200 A   |
| Horsepower Rating UL/CSA         | (200 ... 208 V AC) Three Phase 40 hp<br>(220 ... 240 V AC) Three Phase 50 hp<br>(440 ... 480 V AC) Three Phase 100 hp<br>(550 ... 600 V AC) Three Phase 125 hp |
| Tightening Torque UL/CSA         | Auxiliary Circuit 9 in·lb<br>Control Circuit 9 in·lb<br>Main Circuit 71 in·lb  |
| Full Load Amps Motor Use         | (200 ... 208 V AC) Three Phase 120 A<br>(220 ... 240 V AC) Three Phase 130 A<br>(440 ... 480 V AC) Three Phase 124 A<br>(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<br>Close to Contactor without Thermal O/L Relay (0.85 ... 1.1 Uc) -40 ... 70 °C<br>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            |   | 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 |                 |
| Recyclability Rate of the Product acc. to EN45555 | Design for Closing Resource Loops - Standard EN45555 - 87.8 %   |                 |

## 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   |  | 1.5 kg        |
| Package Level 1 EAN            |  | 7320500561539 |

## 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 |

## Accessories

| Identifier      | Description                         | Type       | Quantity | Unit Of Measure |
|-----------------|-------------------------------------|------------|----------|-----------------|
| 1SFN074207R1000 | LW140 Terminal Enlargement          | LW140      | 1        | piece           |
| 1SFN074210R1000 | LX140 Terminal Extension            | LX140      | 1        | piece           |
| 1SFN084206R1000 | BEA140/XT2 Connection Set           | BEA140/XT2 | 1        | piece           |
| 1SFN084206R1001 | BEA140/XT4 Connection Set           | BEA140/XT4 | 1        | piece           |
| 1SFN084211R1000 | BER140-4 Connection Set             | BER140-4   | 1        | piece           |
| 1SFN084214R1000 | BEP140-30 Connection Set            | BEP140-30  | 1        | piece           |
| 1SFN084214R2000 | BEP140-40 Connection Set            | BEP140-40  | 1        | piece           |
| 1SFN010820R1011 | CAL19-11 Auxiliary Contact Block    | CAL19-11   | 1        | piece           |
| 1SFN010820R3311 | CAL19-11B Auxiliary Contact Block   | CAL19-11B  | 1        | piece           |
| 1SFN030300R1000 | VM19 Mechanical Interlock Unit      | VM19       | 1        | piece           |
| 1SFN034403R1000 | VM140/190 Mechanical Interlock Unit | VM140/190  | 1        | piece           |
| 1SFN010832R1001 | CEL19-01 Auxiliary Contact Block    | CEL19-01   | 1        | piece           |
| 1SFN010832R1010 | CEL19-10 Auxiliary Contact Block    | CEL19-10   | 1        | piece           |
| 1SFN124203R1000 | LT140-30L Terminal Shroud           | LT140-30L  | 1        | piece           |
| 1SFN084413R1000 | BEY140-4 Connection Set             | BEY140-4   | 1        | piece           |
| 1SFN084813R1000 | BEY190-4 Connection Set             | BEY190-4   | 1        | piece           |

## Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF140

