



 PRODUCT-DETAILS

AF16ZB-30-01-22

AF16ZB-30-01-22 48-130V50/60HZ-DC Contactor



General Information

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| Extended Product Type | AF16ZB-30-01-22 |
| Product ID | 1SBL176061R2201 |
| EAN | 3471523124028 |
| Catalog Description | AF16ZB-30-01-22 48-130V50/60HZ-DC Contactor |

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| Long Description | <p>The AF16ZB-30-01-22 is a 3 pole - 690 V IEC or 600 UL contactor with 1 built-in auxiliary contact and screw terminals, controlling motors up to 7.5 kW / 400 V AC (AC-3) or 10 hp / 480 V UL and switching power circuits up to 30 A (AC-1) or 30 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.</p> |
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Ordering

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| Minimum Order Quantity | 1 piece |
| Customs Tariff Number | 85364900 |

Popular Downloads

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|-----------------------------------|-----------------|
| Data Sheet, Technical Information | 1SBC100220C0201 |
| Instructions and Manuals | 1SBC101027M6801 |
| Instructions and Manuals (Part 2) | 1SAC200017M0002 |
| CAD Dimensional Drawing | 2CDC001079B0201 |

Dimensions

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| Product Net Width | 45 mm |
| Product Net Depth / Length | 77 mm |
| Product Net Height | 86 mm |
| Product Net Weight | 0.31 kg |

Technical

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| Number of Main Contacts NO | 3 |
| Number of Main Contacts NC | 0 |
| Number of Auxiliary Contacts NO | 0 |
| Number of Auxiliary Contacts NC | 1 |
| Number of Poles | 3P |
| Standards | IEC/EN 60947-1, IEC/EN 60947-4-1, UL 60335-2-40 LZGH2 A2L, UL 60947-4-1, CSA C22.2 No. 60335-2-40 LZGH2 A2L, CSA C22.2 No. 60947-4-1, IEC 60077-1 (applicable parts), IEC 60077-2 (applicable parts), EN 50155 (applicable parts), TR CU 001/2011, IEC 61373, For compliance confirmation on applicable parts based on your application and combination, please consult your ABB sales representatives. |
| Rated Operational Voltage | Auxiliary Circuit 690 V Main Circuit 690 V |
| Rated Frequency (f) | Auxiliary Circuit 50 / 60 Hz Control Circuit 50 / 60 Hz Main Circuit 50 / 60 Hz |
| Conventional Free-air Thermal Current (I _{th}) | acc. to IEC 60947-4-1, Open Contactors $\Theta = 40\text{ }^{\circ}\text{C}$ 35 A acc. to IEC 60947-5-1, $\Theta = 40\text{ }^{\circ}\text{C}$ 16 A |
| Rated Operational Current AC-1 (I _e) | (690 V) 40 $^{\circ}\text{C}$ 30 A (690 V) 60 $^{\circ}\text{C}$ 30 A (690 V) 70 $^{\circ}\text{C}$ 26 A |
| Rated Operational Current AC-3 (I _e) | (415 V) 60 $^{\circ}\text{C}$ 18 A (440 V) 60 $^{\circ}\text{C}$ 18 A (500 V) 60 $^{\circ}\text{C}$ 15 A (690 V) 60 $^{\circ}\text{C}$ 10.5 A (380 / 400 V) 60 $^{\circ}\text{C}$ 18 A (220 / 230 / 240 V) 60 $^{\circ}\text{C}$ 18 A |
| Rated Operational Current AC-3e (I _e) | (415 V) 60 $^{\circ}\text{C}$ 18 A (440 V) 60 $^{\circ}\text{C}$ 18 A (500 V) 60 $^{\circ}\text{C}$ 15 A (690 V) 60 $^{\circ}\text{C}$ 10.5 A (380 / 400 V) 60 $^{\circ}\text{C}$ 18 A (220 / 230 / 240 V) 60 $^{\circ}\text{C}$ 18 A |
| Rated Operational Current AC-15 (I _e) | (500 V) 2 A (690 V) 2 A (24 / 127 V) 6 A |

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| | (220 / 240 V) 4 A (400 / 440 V) 3 A |
| Rated Operational Current DC-1 (I _e) | (110 V) 1-Pole, 40 °C 20 A (110 V) 1-Pole, 60 °C 20 A (110 V) 1-Pole, 70 °C 20 A (110 V) 2 Poles in Series, 40 °C 30 A (110 V) 2 Poles in Series, 60 °C 30 A (110 V) 2 Poles in Series, 70 °C 26 A (110 V) 3 Poles in Series, 40 °C 30 A (110 V) 3 Poles in Series, 60 °C 30 A (110 V) 3 Poles in Series, 70 °C 26 A (220 V) 2 Poles in Series, 40 °C 20 A (220 V) 2 Poles in Series, 60 °C 20 A (220 V) 2 Poles in Series, 70 °C 20 A (220 V) 3 Poles in Series, 40 °C 30 A (220 V) 3 Poles in Series, 60 °C 30 A (220 V) 3 Poles in Series, 70 °C 26 A (72 V) 1-Pole, 40 °C 30 A (72 V) 1-Pole, 60 °C 30 A (72 V) 1-Pole, 70 °C 26 A (72 V) 2 Poles in Series, 40 °C 30 A (72 V) 2 Poles in Series, 60 °C 30 A (72 V) 2 Poles in Series, 70 °C 26 A (72 V) 3 Poles in Series, 40 °C 30 A (72 V) 3 Poles in Series, 60 °C 30 A (72 V) 3 Poles in Series, 70 °C 26 A |
| Rated Operational Current DC-3 (I _e) | (110 V) 1-Pole, 40 °C 8 A (110 V) 1-Pole, 60 °C 8 A (110 V) 1-Pole, 70 °C 8 A (110 V) 2 Poles in Series, 40 °C 30 A (110 V) 2 Poles in Series, 60 °C 30 A (110 V) 2 Poles in Series, 70 °C 26 A (110 V) 3 Poles in Series, 40 °C 30 A (110 V) 3 Poles in Series, 60 °C 30 A (110 V) 3 Poles in Series, 70 °C 26 A (220 V) 2 Poles in Series, 40 °C 8 A (220 V) 2 Poles in Series, 60 °C 8 A (220 V) 2 Poles in Series, 70 °C 8 A (220 V) 3 Poles in Series, 40 °C 30 A (220 V) 3 Poles in Series, 60 °C 30 A (220 V) 3 Poles in Series, 70 °C 26 A (72 V) 1-Pole, 40 °C 30 A (72 V) 1-Pole, 60 °C 30 A (72 V) 1-Pole, 70 °C 26 A (72 V) 2 Poles in Series, 40 °C 30 A (72 V) 2 Poles in Series, 60 °C 30 A (72 V) 2 Poles in Series, 70 °C 26 A (72 V) 3 Poles in Series, 40 °C 30 A (72 V) 3 Poles in Series, 60 °C 30 A (72 V) 3 Poles in Series, 70 °C 26 A |
| Rated Operational Current DC-5 (I _e) | (110 V) 1-Pole, 40 °C 4 A (110 V) 1-Pole, 60 °C 4 A (110 V) 1-Pole, 70 °C 4 A (110 V) 2 Poles in Series, 40 °C 20 A (110 V) 2 Poles in Series, 60 °C 20 A (110 V) 2 Poles in Series, 70 °C 20 A (110 V) 3 Poles in Series, 40 °C 30 A (110 V) 3 Poles in Series, 60 °C 30 A (110 V) 3 Poles in Series, 70 °C 26 A (220 V) 2 Poles in Series, 40 °C 4 A (220 V) 2 Poles in Series, 60 °C 4 A (220 V) 2 Poles in Series, 70 °C 4 A (220 V) 3 Poles in Series, 40 °C 16 A (220 V) 3 Poles in Series, 60 °C 16 A (220 V) 3 Poles in Series, 70 °C 16 A (72 V) 1-Pole, 40 °C 16 A (72 V) 1-Pole, 60 °C 16 A (72 V) 1-Pole, 70 °C 16 A (72 V) 2 Poles in Series, 40 °C 30 A (72 V) 2 Poles in Series, 60 °C 30 A (72 V) 2 Poles in Series, 70 °C 26 A |

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| | (72 V) 3 Poles in Series, 40 °C 30 A (72 V) 3 Poles in Series, 60 °C 30 A (72 V) 3 Poles in Series, 70 °C 26 A |
| Rated Operational Current DC-13 (I _e) | (24 V) 6 A / 144 W (48 V) 2.8 A / 134 W (72 V) 1 A / 72 W (110 V) 0.55 A / 60 W (125 V) 0.55 A / 69 W (220 V) 0.27 A / 60 W (250 V) 0.27 A / 68 W (400 V) 0.15 A / 60 W (500 V) 0.13 A / 65 W (600 V) 0.1 A / 60 W |
| Rated Operational Power AC-3 (P _e) | (415 V) 9 kW (440 V) 9 kW (500 V) 9 kW (690 V) 9 kW (380 / 400 V) 7.5 kW (220 / 230 / 240 V) 4 kW |
| Rated Operational Power AC-3e (P _e) | (415 V) 9 kW (440 V) 9 kW (500 V) 9 kW (690 V) 9 kW (380 / 400 V) 7.5 kW (220 / 230 / 240 V) 4 kW |
| Rated Short-time Withstand Current Low Voltage (I _{cw}) | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 150 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 35 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 60 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 300 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 80 A for 0.1 s 140 A for 1 s 100 A |
| Maximum Breaking Capacity | cos phi=0.45 (cos phi=0.35 for I _e > 100 A) at 440 V 250 A cos phi=0.45 (cos phi=0.35 for I _e > 100 A) at 690 V 106 A |
| Rated Insulation Voltage (U _i) | acc. to IEC 60947-4-1 690 V acc. to IEC 60947-5-1 690 V acc. to UL/CSA 600 V |
| Rated Impulse Withstand Voltage (U _{imp}) | 6 kV |
| Maximum Electrical Switching Frequency | (AC-1) 600 cycles per hour (AC-15) 1200 cycles per hour (AC-2 / AC-4) 300 cycles per hour (AC-3) 1200 cycles per hour (DC-13) 900 cycles per hour |
| Maximum Mechanical Switching Frequency | 3600 cycles per hour |
| Rated Control Circuit Voltage (U _c) | 50 Hz 48 ... 130 V 60 Hz 48 ... 130 V DC Operation 48 ... 130 V |
| Power Loss | at 6 A per Pole 0.1 W at Rated Operating Conditions AC-1 per Pole 1.2 W at Rated Operating Conditions AC-3 per Pole 0.35 W |
| Operate Time | Between Coil De-energization and NC Contact Closing 13 ... 98 ms Between Coil De-energization and NO Contact Opening 11 ... 95 ms Between Coil Energization and NC Contact Opening 38 ... 90 ms Between Coil Energization and NO Contact Closing 40 ... 95 ms |
| Mounting on DIN Rail | TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715 TH35-7.5 (35 x 7.5 mm Mounting Rail) acc. to IEC 60715 |
| Mounting by Screws (not supplied) | 2 x M4 Screws Placed Diagonally |
| Connecting Capacity Main Circuit | Flexible with Ferrule 1/2x 0.75 ... 6 mm ² Flexible with Insulated Ferrule 1x 0.75 ... 4 mm ² Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm ² Rigid Solid 1/2x 1 ... 4 mm ² Rigid Stranded 1/2x 1 ... 6 mm ² |

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| Connecting Capacity Auxiliary Circuit | Rigid Solid 1/2x 1 ... 2.5 mm ² Rigid Stranded 1/2x 1 ... 2.5 mm ² |
| Connecting Capacity Control Circuit | Flexible with Ferrule 1/2x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm ² Rigid Solid 1/2x 1 ... 2.5 mm ² Rigid Stranded 1/2x 1 ... 2.5 mm ² |
| Wire Stripping Length | Auxiliary Circuit 10 mm Control Circuit 10 mm Main Circuit 10 mm |
| Degree of Protection | acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP20 |
| Tightening Torque | Auxiliary Circuit 1.2 N-m Control Circuit 1.2 N-m Main Circuit 1.5 N-m |
| Terminal Type | Screw Terminals |
| Product Name | Block Contactor |

Technical UL/CSA

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| Maximum Operating Voltage UL/CSA | Main Circuit 600 V |
| General Use Rating UL/CSA | (600 V AC) 30 A |
| Horsepower Rating UL/CSA | (120 V AC) Single Phase 1-1/2 hp (200 ... 208 V AC) Three Phase 5 hp (220 ... 240 V AC) Three Phase 5 hp (240 V AC) Single Phase 3 hp (440 ... 480 V AC) Three Phase 10 hp (550 ... 600 V AC) Three Phase 15 hp |
| Connecting Capacity Main Circuit UL/CSA | Rigid Solid 1/2x 16-10 AWG Rigid Stranded 1/2x 16-10 AWG |
| Connecting Capacity Auxiliary Circuit UL/CSA | Rigid Solid 1/2x 18-14 AWG Rigid Stranded 1/2x 18-14 AWG |
| Connecting Capacity Control Circuit UL/CSA | Rigid Solid 1/2x 18-14 AWG Rigid Stranded 1/2x 18-14 AWG |
| Tightening Torque UL/CSA | Auxiliary Circuit 11 in-lb Control Circuit 11 in-lb Main Circuit 13 in-lb |
| Full Load Amps Motor Use | (120 V AC) Single Phase 20 A (200 ... 208 V AC) Three Phase 17.5 A (220 ... 240 V AC) Three Phase 15.2 A (240 V AC) Single Phase 17 A (440 ... 480 V AC) Three Phase 14 A (550 ... 600 V AC) Three Phase 17 A |

Environmental

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| Ambient Air Temperature | Close to Contactor Fitted with Thermal O/L Relay -25 ... 60 °C Close to Contactor without Thermal O/L Relay -40 ... 70 °C Close to Contactor for Storage -60 ... +80 °C |
| Climatic Withstand | Category B according to IEC 60947-1 Annex Q |
| Maximum Operating Altitude Permissible | Without Derating 3000 m |
| Shock and Vibration Withstand acc. to IEC 61373 | Category 1, Class B |
| Pollution Degree | 3 |

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 |
| ABB Site Meeting Group Waste To Landfill Target | No non-hazardous waste is sent to a landfill |
| End Of Life Disassembling Instructions | 1SBC101080M6801 |
| Environmental Product Declaration - EPD | 1SBD250584E3000 |
| 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 - 92.7 % |

Certificates and Declarations

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|----------------------------------|------------------------------------|
| A2L Certificate – UL | 9AKK108469A4875 9AKK108469A4879 |
| CB Certificate | CB_SE-117714 |
| CCC Certificate | CCC_2024010304656669 |
| CQC Certificate | CQC2010010304445624 |
| Declaration of Conformity - CCC | 2020980304001253 |
| Declaration of Conformity - CE | 1SBD250002U1000 |
| Declaration of Conformity - UKCA | 1SBD250033U1000 |
| KC Certificate | KC_HW02016-15005C |
| UL Certificate | UL-US-2150887-5 UL-CA-2142658-5 |
| UL Listing Card | E312527 |

Container Information

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| Package Level 1 Units | box 1 piece |
| Package Level 1 Width | 87 mm |
| Package Level 1 Depth / Length | 79 mm |
| Package Level 1 Height | 47 mm |
| Package Level 1 Gross Weight | 0.31 kg |
| Package Level 1 EAN | 3471523124028 |

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 >> lec Contactors |

Accessories

| Identifier | Description | Type | Quantity | Unit Of Measure |
|-----------------|--|-----------|----------|-----------------|
| 1SBN010110R1010 | CA4-10 Auxiliary Contact Block | CA4-10 | 1 | piece |
| 1SBN010110T1010 | CA4-10-T Auxiliary Contact Block | CA4-10-T | 1 | piece |
| 1SBN010110R1001 | CA4-01 Auxiliary Contact Block | CA4-01 | 1 | piece |
| 1SBN010110T1001 | CA4-01-T Auxiliary Contact Block | CA4-01-T | 1 | piece |
| 1SBN010120R1011 | CAL4-11 Auxiliary Contact Block | CAL4-11 | 1 | piece |
| 1SBN010120T1011 | CAL4-11-T Auxiliary Contact Block | CAL4-11-T | 1 | piece |
| 1SBN010140R1022 | CA4-22E Auxiliary Contact Block | CA4-22E | 1 | piece |
| 1SBN010140R1031 | CA4-31E Auxiliary Contact Block | CA4-31E | 1 | piece |
| 1SBN010140R1040 | CA4-40E Auxiliary Contact Block | CA4-40E | 1 | piece |
| 1SBN010140R1004 | CA4-04E Auxiliary Contact Block | CA4-04E | 1 | piece |
| 1SBN010140R1322 | CA4-22U Auxiliary Contact Block | CA4-22U | 1 | piece |
| 1SBN010140R1122 | CA4-22M Auxiliary Contact Block | CA4-22M | 1 | piece |
| 1SBN010151R1011 | CAT4-11E Auxiliary Contact / Coil Terminal Block | CAT4-11E | 1 | piece |
| 1SBN010140R1331 | CA4-31U Auxiliary Contact Block | CA4-31U | 1 | piece |
| 1SBN010140R1131 | CA4-31M Auxiliary Contact Block | CA4-31M | 1 | piece |
| 1SBN010151R1111 | CAT4-11M Auxiliary Contact / Coil Terminal Block | CAT4-11M | 1 | piece |
| 1SBN010140R1340 | CA4-40U Auxiliary Contact Block | CA4-40U | 1 | piece |
| 1SBN010140R1113 | CA4-13M Auxiliary Contact Block | CA4-13M | 1 | piece |
| 1SBN010151R1311 | CAT4-11U Auxiliary Contact / Coil Terminal Block | CAT4-11U | 1 | piece |
| 1SBN070156T1000 | LDC4 Additional Coil Terminal Block | LDC4 | 1 | piece |
| 1SBN010140R1104 | CA4-04M Auxiliary Contact Block | CA4-04M | 1 | piece |
| 1SBN010134R1011 | CAL4-11K Auxiliary Contact Block | CAL4-11K | 1 | piece |
| 1SBN110108T1000 | BX4 Protective Cover | BX4 | 1 | piece |
| 1SBN010146R1104 | CA4-04MK Auxiliary Contact Block | CA4-04MK | 1 | piece |
| 1SBN010146R1113 | CA4-13MK Auxiliary Contact Block | CA4-13MK | 1 | piece |
| 1SBN070159T1000 | LDC4K Additional Coil Terminal Block | LDC4K | 1 | piece |
| 1SBN010160R1001 | CA4-01K Auxiliary Contact Block | CA4-01K | 1 | piece |
| 1SBN010146R1022 | CA4-22EK Auxiliary Contact Block | CA4-22EK | 1 | piece |
| 1SBN010160R1010 | CA4-10K Auxiliary Contact Block | CA4-10K | 1 | piece |
| 1SBN010146R1122 | CA4-22MK Auxiliary Contact Block | CA4-22MK | 1 | piece |
| 1SBN010160T1001 | CA4-01K-T Auxiliary Contact Block | CA4-01K-T | 1 | piece |
| 1SBN010160T1010 | CA4-10K-T Auxiliary Contact Block | CA4-10K-T | 1 | piece |
| 1SBN010146R1031 | CA4-31EK Auxiliary Contact Block | CA4-31EK | 1 | piece |
| 1SBN010146R1131 | CA4-31MK Auxiliary Contact Block | CA4-31MK | 1 | piece |
| 1SBN010146R1040 | CA4-40EK Auxiliary Contact Block | CA4-40EK | 1 | piece |

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF16

