



 PRODUCT-DETAILS

AF30ZB-30-00K-21

AF30ZB-30-00K-21 24-60V50/60HZ 20-60VDC Contactor



General Information

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| Extended Product Type | AF30ZB-30-00K-21 |
| Product ID | 1SBL276063R2100 |
| EAN | 3471523010079 |
| Catalog Description | AF30ZB-30-00K-21 24-60V50/60HZ 20-60VDC Contactor |
| Long Description | <p>The AF30ZB-30-00K-21 is a 3 pole - 690 V IEC or 600 UL contactor with Push-in spring terminals, controlling motors up to 15 kW / 400 V AC (AC-3) or 20 hp / 480 V UL and switching power circuits up to 45 A (AC-1) or 50 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 | 85364900 |

Popular Downloads

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|-----------------------------------|-----------------|
| Data Sheet, Technical Information | 1SBC100220C0201 |
| Instructions and Manuals | 1SBC101054M6801 |
| Instructions and Manuals (Part 2) | 1SAC200017M0002 |
| CAD Dimensional Drawing | 2CDC001079B0201 |

Dimensions

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| Product Net Width | 45 mm |
| Product Net Depth / Length | 86 mm |
| Product Net Height | 92.3 mm |
| Product Net Weight | 0.33 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 | 0 |
| Number of Poles | 3P |
| Standards | IEC/EN 60947-1, IEC/EN 60947-4-1, UL 60947-4-1, 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 | Main Circuit 690 V |
| Rated Frequency (f) | 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 $\Theta = 40\text{ }^{\circ}\text{C}$ 50 A |
| Rated Operational Current AC-1 (I _e) | (690 V) 40 °C 50 A (690 V) 60 °C 42 A (690 V) 70 °C 37 A |
| Rated Operational Current AC-3 (I _e) | (415 V) 60 °C 32 A (440 V) 60 °C 32 A (500 V) 60 °C 28 A (690 V) 60 °C 21 A (380 / 400 V) 60 °C 32 A (220 / 230 / 240 V) 60 °C 33 A |
| Rated Operational Current AC-3e (I _e) | (415 V) 60 °C 32 A (440 V) 60 °C 32 A (500 V) 60 °C 28 A (690 V) 60 °C 21 A (380 / 400 V) 60 °C 32 A (220 / 230 / 240 V) 60 °C 33 A |
| Rated Operational Current DC-1 (I _e) | (110 V) 2 Poles in Series, 40 °C 50 A (110 V) 2 Poles in Series, 60 °C 42 A (110 V) 2 Poles in Series, 70 °C 37 A (110 V) 3 Poles in Series, 40 °C 50 A (110 V) 3 Poles in Series, 60 °C 42 A |

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| | (110 V) 3 Poles in Series, 70 °C 37 A (220 V) 3 Poles in Series, 40 °C 50 A (220 V) 3 Poles in Series, 60 °C 42 A (220 V) 3 Poles in Series, 70 °C 37 A (72 V) 1-Pole, 40 °C 50 A (72 V) 1-Pole, 60 °C 42 A (72 V) 1-Pole, 70 °C 37 A (72 V) 2 Poles in Series, 40 °C 50 A (72 V) 2 Poles in Series, 60 °C 42 A (72 V) 2 Poles in Series, 70 °C 37 A (72 V) 3 Poles in Series, 40 °C 50 A (72 V) 3 Poles in Series, 60 °C 42 A (72 V) 3 Poles in Series, 70 °C 37 A |
| Rated Operational Current DC-3 (I _e) | (110 V) 2 Poles in Series, 40 °C 50 A (110 V) 2 Poles in Series, 60 °C 42 A (110 V) 2 Poles in Series, 70 °C 37 A (110 V) 3 Poles in Series, 40 °C 50 A (110 V) 3 Poles in Series, 60 °C 42 A (110 V) 3 Poles in Series, 70 °C 37 A (220 V) 3 Poles in Series, 40 °C 50 A (220 V) 3 Poles in Series, 60 °C 42 A (220 V) 3 Poles in Series, 70 °C 37 A (72 V) 1-Pole, 40 °C 50 A (72 V) 1-Pole, 60 °C 42 A (72 V) 1-Pole, 70 °C 37 A (72 V) 2 Poles in Series, 40 °C 50 A (72 V) 2 Poles in Series, 60 °C 42 A (72 V) 2 Poles in Series, 70 °C 37 A (72 V) 3 Poles in Series, 40 °C 50 A (72 V) 3 Poles in Series, 60 °C 42 A (72 V) 3 Poles in Series, 70 °C 37 A |
| Rated Operational Current DC-5 (I _e) | (110 V) 2 Poles in Series, 40 °C 50 A (110 V) 2 Poles in Series, 60 °C 42 A (110 V) 2 Poles in Series, 70 °C 37 A (110 V) 3 Poles in Series, 40 °C 50 A (110 V) 3 Poles in Series, 60 °C 42 A (110 V) 3 Poles in Series, 70 °C 37 A (220 V) 3 Poles in Series, 40 °C 25 A (220 V) 3 Poles in Series, 60 °C 25 A (220 V) 3 Poles in Series, 70 °C 25 A (72 V) 1-Pole, 40 °C 25 A (72 V) 1-Pole, 60 °C 25 A (72 V) 1-Pole, 70 °C 25 A (72 V) 2 Poles in Series, 40 °C 50 A (72 V) 2 Poles in Series, 60 °C 42 A (72 V) 2 Poles in Series, 70 °C 37 A (72 V) 3 Poles in Series, 40 °C 50 A (72 V) 3 Poles in Series, 60 °C 42 A (72 V) 3 Poles in Series, 70 °C 37 A |
| Rated Operational Power AC-3 (P _e) | (415 V) 15 kW (440 V) 18.5 kW (500 V) 18.5 kW (690 V) 18.5 kW (380 / 400 V) 15 kW (220 / 230 / 240 V) 9 kW |
| Rated Operational Power AC-3e (P _e) | (415 V) 15 kW (440 V) 18.5 kW (500 V) 18.5 kW (690 V) 18.5 kW (380 / 400 V) 15 kW (220 / 230 / 240 V) 9 kW |
| Rated Short-time Withstand Current Low Voltage (I _{cw}) | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 350 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 50 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 150 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 700 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 225 A |
| Maximum Breaking Capacity | cos phi=0.45 (cos phi=0.35 for I _e > 100 A) at 440 V 500 A cos phi=0.45 (cos phi=0.35 for I _e > 100 A) at 690 V 200 A |
| Rated Insulation Voltage | acc. to IEC 60947-4-1 690 V |

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| (U _i) | 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) 0 cycles per hour (AC-2 / AC-4) 150 cycles per hour (AC-3) 1200 cycles per hour (DC-13) 0 cycles per hour |
| Maximum Mechanical Switching Frequency | 3600 cycles per hour |
| Rated Control Circuit Voltage (U _c) | 50 Hz 24 ... 60 V 60 Hz 24 ... 60 V DC Operation 20 ... 60 V |
| Power Loss | at Rated Operating Conditions AC-1 per Pole 2.44 W at Rated Operating Conditions AC-3 per Pole 1 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 1 ... 6 mm ² Flexible with Insulated Ferrule 1/2x 1 ... 6 mm ² Flexible 1/2x 1 ... 6 mm ² Rigid Solid 1/2x 1 ... 2.5 mm ² Rigid Stranded 1/2x 4 ... 10 mm ² |
| Connecting Capacity Control Circuit | Flexible with Ferrule 1/2x 0.5 ... 2.5 mm ² Flexible with Insulated Ferrule 1/2x 0.5 ... 1.5 mm ² Flexible 1/2x 0.5 ... 2.5 mm ² Rigid 1/2x 1 ... 2.5 mm ² Rigid Solid 1/2x 1 ... 2.5 mm ² |
| Wire Stripping Length | Auxiliary Circuit 0 mm Control Circuit 10 mm Main Circuit 14 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 IP20 |
| Terminal Type | Push-in Spring 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) 45 A |
| Horsepower Rating UL/CSA | (120 V AC) Single Phase 2 hp (200 ... 208 V AC) Three Phase 10 hp (220 ... 240 V AC) Three Phase 10 hp (240 V AC) Single Phase 5 hp (440 ... 480 V AC) Three Phase 20 hp (550 ... 600 V AC) Three Phase 25 hp |
| Connecting Capacity Main Circuit UL/CSA | Rigid Solid 1/2x 18-14 AWG Rigid Stranded 1/2x 18-8 AWG |
| Connecting Capacity Control Circuit UL/CSA | Rigid Solid 1/2x 18-14 AWG |
| Full Load Amps Motor Use | (120 V AC) Single Phase 24 A (200 ... 208 V AC) Three Phase 32.2 A (220 ... 240 V AC) Three Phase 28 A (240 V AC) Single Phase 28 A (440 ... 480 V AC) Three Phase 27 A |

(550 ... 600 V AC) Three Phase 27 A

Environmental

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| Ambient Air Temperature | Close to Contactor without Thermal O/L Relay -40 ... 70 °C Close to Contactor for Storage -60 ... +80 °C |
| Climatic Withstand | according to IEC 60068-2-30 and 60068-2-11 - UTE C 63-100 Specification II |
| Maximum Operating Altitude Permissible | Without Derating 3000 m |
| Resistance to Vibrations | 4g Closed Position & 2g Open position 5 ... 300 Hz |
| 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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|---|---------------------------|
| End Of Life Disassembling Instructions | 1SBC101080M6801 |
| Environmental Product Declaration - EPD | 1SBD250584E4000 |
| Sustainable Material Content in Packaging (wt. %) | Recycled Cardboard - 86 % |
| Sustainable Material Content in Product (wt. %) | Recycled Metal - 28 % |

Certificates and Declarations

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| CB Certificate | CB_SE-116364 |
| CCC Certificate | CCC_2024010304656668 |
| CQC Certificate | CQC2010010304445623 |
| Declaration of Conformity - CCC | 2020980304001254 |
| Declaration of Conformity - CE | 1SBD250002U1000 |
| Declaration of Conformity - UKCA | 1SBD250033U1000 |
| UL Certificate | UL-US-2150887-5 UL-CA-2142658-5 |

Container Information

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|--------------------------------|---------------|
| Package Level 1 Units | box 1 piece |
| Package Level 1 Width | 93 mm |
| Package Level 1 Depth / Length | 86 mm |
| Package Level 1 Height | 45 mm |
| Package Level 1 Gross Weight | 0.36 kg |
| Package Level 1 EAN | 3471523010079 |

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 |

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF30

