

PRODUCT-DETAILS

# AF50-30-00 20-60V DC

## AF50-30-00 20-60V DC Contactor



### General Information

|                       |                                |
|-----------------------|--------------------------------|
| Extended Product Type | AF50-30-00 20-60V DC           |
| Product ID            | 1SBL357001R7200                |
| EAN                   | 3471522114624                  |
| Catalog Description   | AF50-30-00 20-60V DC Contactor |

|                  |   |
|------------------|---|
| Long Description | <p>AF50 contactors are mainly used for controlling 3-phase motors and generally for controlling power circuits up to 690 V AC and 220 V DC. The contactors can also be used for many other applications such as bypass, capacitor switching, lighting, DC power circuits... The AF... contactors are fitted with an electronic coil interface which accepts a wide control voltage range, on AC 50/60 Hz or DC supplies. The same contactor can accept various supply voltages according to the different countries where the electrical equipment will be installed, or some fluctuation in the control voltage due to the local supply or network. The AF... contactors are also fully suitable for operation in AC or DC control circuit liable to voltage interruptions or voltage dip risks. Advantages: - Wide voltage range, e.g. 100 ... 250 V AC and DC - Can manage large voltage variations - Reduced power consumption - Very distinct closing and opening - Noise free - Can withstand voltage interruptions or voltage dips in the control supply (<math>\leq 20</math> ms). The AF... series 1-stack 3-pole contactors are of the block type design. - Main poles and auxiliary contact blocks: 3 main poles, front and side-mounted add-on auxiliary contact blocks - Control circuit: AC or DC operated - Accessories: a wide range of accessories is available.</p> |
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### Ordering

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

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## Popular Downloads

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|                                   |                 |
|-----------------------------------|-----------------|
| Data Sheet, Technical Information | 1SNC001003C0202 |
| Instructions and Manuals          | FPTC407734P0003 |

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## Dimensions

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| Product Net Width          | 70 mm   |
| Product Net Depth / Length | 108 mm  |
| Product Net Height         | 110 mm  |
| Product Net Weight         | 1.18 kg |

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## 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  |
| Standards  | IEC/EN 60947-1, IEC/EN 60947-4-1, UL 508, CSA C22-2 N°14, IEC 60077-1 (applicable parts), IEC 60077-2 (applicable parts), EN 50155 (applicable parts), TR CU 001/2011 (on request), 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   |
| Conventional Free-air Thermal Current ( $I_{th}$ ) | acc. to IEC 60947-4-1, Open Contactors q = 40 °C 100 A   |
| Rated Operational Current AC-1 ( $I_e$ )           | (690 V) 40 °C 100<br>(690 V) 55 °C 85<br>(690 V) 70 °C 70  |
| Rated Operational Current AC-3 ( $I_e$ )           | (415 V) 55 °C 50 A<br>(440 V) 55 °C 45 A<br>(500 V) 55 °C 45 A<br>(690 V) 55 °C 35 A<br>(380 / 400 V) 55 °C 50 A<br>(220 / 230 / 240 V) 55 °C 53   |
| Rated Operational Power AC-3 ( $P_e$ )             | (415 V) 25 kW<br>(440 V) 25 kW<br>(500 V) 30 kW<br>(690 V) 30 kW<br>(380 / 400 V) 22 kW<br>(220 / 230 / 240 V) 15 kW   |
| Rated Operational Power AC-6b ( $P_e$ )            | (230 / 240 V) 40 °C, 50 / 60 Hz 22 kvar<br>(230 / 240 V) 55 °C, 50 / 60 Hz 22 kvar<br>(230 / 240 V) 70 °C, 50 / 60 Hz 20 kvar<br>(400 / 415 V) 40 °C, 50 / 60 Hz 38 kvar<br>(400 / 415 V) 70 °C, 50 / 60 Hz 34 kvar<br>(400 / 415 V) 55 °C, 50 / 60 Hz 38 kvar<br>(440 V) 40 °C, 50 / 60 Hz 42 kvar<br>(440 V) 55 °C, 50 / 60 Hz 42 kvar<br>(440 V) 70 °C, 50 / 60 Hz 37 kvar<br>(500 / 550 V), 40 °C, 50 / 60 Hz 48 kvar<br>(500 / 550 V) 55 °C, 50 / 60 Hz 48 kvar |

(500 / 550 V) 70 °C, 50 / 60 Hz 42 kvar  
 (690 V) 40 °C, 50 / 60 Hz 65 kvar  
 (690 V) 55 °C, 50 / 60 Hz 65 kvar  
 (690 V) 70 °C, 50 / 60 Hz 58.5 kvar

|  |  |
|--|--|
| Rated Breaking Capacity<br>AC-3 acc. to IEC 60947-4-1        | 8 x I <sub>e</sub> AC-3  |
| Rated Making Capacity<br>AC-3 acc. to IEC 60947-4-1          | 10 x I <sub>e</sub> AC-3   |
| Short-Circuit Protective Devices                             | gG Type Fuses 100 A  |
| Maximum Breaking Capacity                                    | cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 440 V 1300 A<br>cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 690 V 630 A  |
| 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  |
| 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 600 V  |
| Rated Impulse Withstand Voltage (U <sub>imp</sub> )          | 8 kV   |
| Maximum Mechanical Switching Frequency                       | 300 cycles per hour  |
| Rated Control Circuit Voltage (U <sub>c</sub> )              | DC Operation 20 ... 60 V   |
| Coil Consumption   | Holding at Max. Rated Control Circuit Voltage 50 Hz 7 2.8 V·A<br>Holding at Max. Rated Control Circuit Voltage 60 Hz 7 2.8 V·A<br>Pull-in at Max. Rated Control Circuit Voltage 50 Hz 210 V·A<br>Pull-in at Max. Rated Control Circuit Voltage 60 Hz 210 V·A |
| Operate Time   | Between Coil De-energization and NC Contact Closing 35 ... 115 ms<br>Between Coil De-energization and NO Contact Opening 30 ... 110 ms<br>Between Coil Energization and NO Contact Closing 30 ... 100 ms   |
| Connecting Capacity Main Circuit                             | Flexible with Cable End 6 ... 16 mm <sup>2</sup><br>Rigid Cable 6 ... 25 mm <sup>2</sup>   |
| Connecting Capacity Auxiliary Circuit                        | Flexible with Cable End 0.75 ... 2.5 mm <sup>2</sup><br>Rigid Cable 1 ... 4 mm <sup>2</sup>  |
| Degree of Protection   | acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20   |
| Connecting Terminals (delivered in open position) Main Poles | M 6 (+,-) pozidriv 2 screws with 1x (13 x 10 mm) connector   |
| Terminal Type  | Screw Terminals  |

## Environmental

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| Ambient Air Temperature                    | Close to Contactor Fitted with Thermal O/L Relay -25 ... +55 °C<br>Close to Contactor without Thermal O/L Relay -40 ... +70 °C<br>Close to Contactor for Storage -60 ... +80 °C              |
| Climatic Withstand                         | acc. to IEC 60068-2-30 and 60068-2-11 - UTE C 63-100 specification II  |
| Maximum Operating Altitude Permissible     | 3000 m   |
| Resistance to Shock acc. to IEC 60068-2-27 | Closed, Shock Direction: B1 10 K40<br>Open, Shock Direction: B1 5 K40<br>Shock Direction: A 20 K40<br>Shock Direction: B2 15 K40<br>Shock Direction: C1 20 K40<br>Shock Direction: C2 20 K40 |
| RoHS Status                                | Following EU Directive 2011/65/EU  |

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**Certificates and Declarations (Document Number)**


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|                                    |  |
|------------------------------------|--|
| CB Certificate                     | CB_CN45489                                   |
| CCC Certificate                    | CCC_2018010304134049<br>CCC_2010010304402983 |
| CQC Certificate                    | CQC2018010304134049<br>CQC2010010304402983   |
| CSA Certificate                    | CSA_1033838_LR056745                         |
| Declaration of Conformity<br>- CCC | 2020980304001624<br>2020980304001225         |
| Declaration of Conformity<br>- CE  | 1SBD250803U1000                              |
| EAC Certificate                    | EAC_RU C-FR ME77 B01010                      |
| Environmental Information          | 1SBD250020E1002                              |
| GOST Certificate                   | GOST_POCCFRME77B07175                        |
| Instructions and Manuals           | FPTC407734P0003                              |
| KC Certificate                     | KC_HW02032-21001B                            |
| RMRS Certificate                   | RMRS_1802704280                              |
| RoHS Information                   | 1SBD250803U1000                              |
| UL Certificate                     | UL_20120830-E312527-10-1                     |
| UL Listing Card                    | UL_E312527                                   |

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**Container Information**


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|-----------------------------------|---------------|
| Package Level 1 Units             | 1 piece       |
| Package Level 1 Width             | 140 mm        |
| Package Level 1 Depth /<br>Length | 146 mm        |
| Package Level 1 Height            | 96 mm         |
| Package Level 1 Gross<br>Weight   | 1.18 kg       |
| Package Level 1 EAN               | 3471522114624 |
| Package Level 2 Units             | box 20 piece  |
| Package Level 2 Gross<br>Weight   | 23.6 kg       |

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**Classifications**


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|----------------------------|---|
| Object Classification Code | Q   |
| ETIM 4                     | EC000066 - Magnet contactor, AC-switching |
| ETIM 5                     | EC000066 - Magnet contactor, AC-switching |
| ETIM 6                     | EC000066 - Power contactor, AC switching  |
| ETIM 7                     | EC000066 - Power contactor, AC switching  |
| eClass                     | V11.0 : 27371003                          |
| UNSPSC                     | 39121529                                  |
| E-Number (Sweden)          | 3228337                                   |

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## Categories

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

