

PRODUCT-DETAILS

# AF16Z-30-01-23

## AF16Z-30-01-23 100-250V50/60HZ-DC Contactor



### General Information

|                       |   |
|-----------------------|---|
| Extended Product Type | AF16Z-30-01-23                              |
| Product ID            | 1SBL176001R2301                             |
| EAN                   | 3471523113930                               |
| Catalog Description   | AF16Z-30-01-23 100-250V50/60HZ-DC Contactor |

|                  |  |
|------------------|--|
| Long Description | <p>The AF16Z-30-01-23 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 (100-250 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> |
|------------------|--|

### Ordering

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

### Popular Downloads

|                          |                 |
|--------------------------|-----------------|
| Instructions and Manuals | 1SBC101027M6801 |
|--------------------------|-----------------|

## Dimensions

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

## Technical

|   |   |
|---|---|
| Number of Main Contacts NO  | 3   |
| Number of Main Contacts NC  | 0   |
| Number of Auxiliary Contacts NO                                   | 0   |
| Number of Auxiliary Contacts NC                                   | 1   |
| Standards   | IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1, UL 508, CSA C22.2 N° 14   |
| Rated Operational Voltage   | Auxiliary Circuit 690 V<br>Main Circuit 690 V   |
| Rated Frequency (f)   | Auxiliary Circuit 50 / 60 Hz<br>Main Circuit 50 / 60 Hz   |
| Conventional Free-air Thermal Current (I <sub>th</sub> )          | acc. to IEC 60947-4-1, Open Contactors q = 40 °C 35 A<br>acc. to IEC 60947-5-1, q = 40 °C 16 A  |
| Rated Operational Current AC-1 (I <sub>e</sub> )                  | (690 V) 40 °C 30 A<br>(690 V) 60 °C 30 A<br>(690 V) 70 °C 26 A  |
| Rated Operational Current AC-3 (I <sub>e</sub> )                  | (415 V) 60 °C 18 A<br>(440 V) 60 °C 18 A<br>(500 V) 60 °C 15 A<br>(690 V) 60 °C 10.5 A<br>(380 / 400 V) 60 °C 18 A<br>(220 / 230 / 240 V) 60 °C 18 A  |
| Rated Operational Power AC-3 (P <sub>e</sub> )                    | (400 V) 7.5 kW<br>(415 V) 9 kW<br>(440 V) 9 kW<br>(500 V) 9 kW<br>(690 V) 9 kW<br>(380 / 400 V) 7.5 kW<br>(220 / 230 / 240 V) 4 kW  |
| Rated Operational Current AC-15 (I <sub>e</sub> )                 | (500 V) 2 A<br>(690 V) 2 A<br>(24 / 127 V) 6 A<br>(220 / 240 V) 4 A<br>(400 / 440 V) 3 A  |
| 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 150 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 35 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 60 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 300 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 80 A<br>for 0.1 s 140 A<br>for 1 s 100 A |
| Maximum Breaking Capacity   | cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 440 V 250 A<br>cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 690 V 106 A  |
| Maximum Electrical Switching Frequency                            | (AC-1) 600 cycles per hour<br>(AC-15) 1200 cycles per hour<br>(AC-2 / AC-4) 300 cycles per hour<br>(AC-3) 1200 cycles per hour<br>(DC-13) 900 cycles per hour   |
| Rated Operational Current DC-13 (I <sub>e</sub> )                 | (24 V) 6 A / 144 W<br>(48 V) 2.8 A / 134 W<br>(72 V) 1 A / 72 W<br>(110 V) 0.55 A / 60 W<br>(125 V) 0.55 A / 69 W<br>(220 V) 0.27 A / 60 W<br>(250 V) 0.27 A / 68 W   |

|   |  |
|---|--|
|   | (400 V) 0.15 A / 60 W<br>(500 V) 0.13 A / 65 W<br>(600 V) 0.1 A / 60 W   |
| Rated Insulation Voltage (U <sub>i</sub> )          | acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 690 V<br>acc. to UL/CSA 600 V   |
| Rated Impulse Withstand Voltage (U <sub>imp</sub> ) | 6 kV   |
| Maximum Mechanical Switching Frequency              | 3600 cycles per hour   |
| Rated Control Circuit Voltage (U <sub>c</sub> )     | 50 Hz 100 ... 250 V<br>50 Hz / 60 Hz 100 ... 250 V<br>60 Hz 100 ... 250 V<br>DC Operation 100 ... 250 V  |
| Operate Time  | Between Coil De-energization and NC Contact Closing 13 ... 98 ms<br>Between Coil De-energization and NO Contact Opening 11 ... 95 ms<br>Between Coil Energization and NC Contact Opening 38 ... 90 ms<br>Between Coil Energization and NO Contact Closing 40 ... 95 ms |
| Connecting Capacity Main Circuit                    | Flexible with Ferrule 1/2x 0.75 ... 6 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1x 0.75 ... 4 mm <sup>2</sup><br>Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup><br>Rigid 1/2x 1 ... 6 mm <sup>2</sup>  |
| Connecting Capacity Auxiliary Circuit               | Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm <sup>2</sup><br>Rigid 1/2x 1 ... 2.5 mm <sup>2</sup>                                  |
| Connecting Capacity Control Circuit                 | Flexible with Ferrule 1/2x 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 ... 1.5 mm <sup>2</sup><br>Rigid 1/2x 1 ... 2.5 mm <sup>2</sup>                                  |
| Wire Stripping Length                               | Auxiliary Circuit 10 mm<br>Control Circuit 10 mm<br>Main Circuit 10 mm   |
| Degree of Protection                                | acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP20<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP20  |
| Terminal Type                                       | Screw Terminals  |

## Technical UL/CSA

|                           |  |
|---------------------------|--|
| General Use Rating UL/CSA | (600 V AC) 30 A  |
| Horsepower Rating UL/CSA  | (120 V AC) Single Phase 1-1/2 hp<br>(200 ... 208 V AC) Three Phase 5 hp<br>(220 ... 240 V AC) Three Phase 5 hp<br>(240 V AC) Single Phase 3 hp<br>(440 ... 480 V AC) Three Phase 10 hp<br>(550 ... 600 V AC) Three Phase 15 hp |
| Tightening Torque UL/CSA  | Auxiliary Circuit 11 in-lb<br>Control Circuit 11 in-lb<br>Main Circuit 13 in-lb  |

## Environmental

|  |   |
|--|---|
| Ambient Air Temperature                        | Close to Contactor Fitted with Thermal O/L Relay -25 ... 60 °C<br>Close to Contactor without Thermal O/L Relay -40 ... 70 °C<br>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   |
| Resistance to Vibrations acc. to IEC 60068-2-6 | 5 ... 300 Hz 4 g closed position / 2 g open position  |
| Resistance to Shock acc. to IEC 60068-2-27     | Closed, Shock Direction: B1 25 g<br>Open, Shock Direction: B1 5 g<br>Shock Direction: A 30 g<br>Shock Direction: B2 15 g  |

Shock Direction: C1 25 g

Shock Direction: C2 25 g

RoHS Status

Following EU Directive 2011/65/EU

## Certificates and Declarations (Document Number)

|                                    |  |
|------------------------------------|--|
| ABS Certificate                    | ABS_15-GE1349500-PDA_90682247              |
| BV Certificate                     | BV_2634H24898B0                            |
| CB Certificate                     | CB_SE-96551M1                              |
| CCC Certificate                    | CCC_2010010304445624                       |
| CQC Certificate                    | CQC2010010304445624<br>CQC2020010304298240 |
| cUL Certificate                    | UL_20180227_E312527_7_1                    |
| Declaration of<br>Conformity - CCC | 2020980304001253<br>2020980304001082       |
| Declaration of<br>Conformity - CE  | 1SBD250000U1000                            |
| DNV Certificate                    | DNV-GL_TAE00001AF-3                        |
| DNV GL Certificate                 | DNV-GL_TAE00001AF-3                        |
| EAC Certificate                    | EAC_RU_FRME77B03447                        |
| Environmental<br>Information       | 1SBD250147E1000                            |
| GL Certificate                     | DNV-GL_TAE00001AF-3                        |
| GOST Certificate                   | GOST_POCCFR.ME77.B07175.pdf                |
| Instructions and<br>Manuals        | 1SBC101027M6801                            |
| KC Certificate                     | KC_HW02016-15005C                          |
| LR Certificate                     | LRS_1300087E1                              |
| RINA Certificate                   | RINA_ELE240318XG                           |
| RMRS Certificate                   | RMRS_1802705280                            |
| RoHS Information                   | 1SBD250000U1000                            |
| UL Certificate                     | UL_20140305-E312527_7_1                    |
| UL Listing Card                    | E312527                                    |

## Container Information

|                                   |               |
|-----------------------------------|---------------|
| Package Level 1 Units             | box 1 piece   |
| Package Level 1 Width             | 87 mm         |
| Package Level 1 Depth /<br>Length | 79 mm         |
| Package Level 1 Height            | 47 mm         |
| Package Level 1 Gross<br>Weight   | 0.31 kg       |
| Package Level 1 EAN               | 3471523113930 |
| Package Level 2 Units             | box 27 piece  |
| Package Level 2 Width             | 250 mm        |
| Package Level 2 Depth /<br>Length | 300 mm        |
| Package Level 2 Height            | 315 mm        |
| Package Level 2 Gross<br>Weight   | 8.37 kg       |
| Package Level 3 Units             | 1296 piece    |

## Classifications

|                               |   |
|-------------------------------|---|
| Object Classification<br>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 (Finland) | 3706258                                   |

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## Categories

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

