



**Electric Automation**  
Automation specialists

Reference: AF38Z-30-22-23  
Code: 1SBL296001R2322

AF38Z-30-22-23 100-250V50/60HZ-DC  
Contactor

Buy it at Electric Automation Network



AF38Z contactors are used for controlling power circuits up to 690 V AC and 220 V DC. They are mainly used for controlling 3-phase motors, non-inductive or slightly inductive loads. AF..Z contactors include an electronic coil interface accepting a wide control voltage  $U_c \text{ min.} \dots U_c \text{ max.}$  Only four coils cover control voltages between 24...250 V 50/60 Hz or 12...250 V DC. AF..Z contactors can manage large control voltage variations. One coil can be used for different control voltages used worldwide without any coil change. AF..Z contactors allow direct control by PLC-output  $\geq 24 \text{ V DC } 500 \text{ mA}$  and obtain a reduced holding coil consumption. AF..Z contactors withstand short voltage dips and voltage sags (SEMI F47-0706 compliance) between 24...250 V 50/60 Hz AF..Z contactors have built-in surge protection and do not require additional surge suppressors The AF.. series 2-stack 3-pole contactors are of the block type design. - Main poles and auxiliary contact blocks: 3 main poles with a non-removable front-mounted 2 N.O. + 2 N.C. auxiliary contact block, side-mounted add-on auxiliary contact blocks (mechanically-linked auxiliary contacts compliant with Annex L of IEC 60947-5-1 including the "Mechanically Linked" symbol on the contactor side. N.C. mirror contacts compliant with Annex F of IEC 60947-4-1) - Control circuit: AC or DC operated - Accessories: a wide range of accessories is available. Note: 2-stack contactors available in some countries: please consult your ABB representative.

## Ordering

|                         |               |
|-------------------------|---------------|
| EAN:                    | 3471523114937 |
| Minimum Order Quantity: | 1 piece       |
| Customs Tariff Number:  | 85369085      |

## Dimensions

|                     |          |
|---------------------|----------|
| Product Net Width:  | 45 mm    |
| Product Net Depth:  | 119.5 mm |
| Product Net Height: | 86 mm    |
| Product Net Weight: | 0.400 kg |

## Container Information

|                               |               |
|-------------------------------|---------------|
| Package Level 1 Units:        | 1 piece       |
| Package Level 1 Width:        | 87 mm         |
| Package Level 1 Length:       | 121 mm        |
| Package Level 1 Height:       | 47 mm         |
| Package Level 1 Gross Weight: | 0.4 kg        |
| Package Level 1 EAN:          | 3471523114937 |
| Package Level 2 Units:        | 36 piece      |
| Package Level 2 Width:        | 250 mm        |
| Package Level 2 Length:       | 300 mm        |
| Package Level 2 Height:       | 315 mm        |
| Package Level 3 Units:        | 864 piece     |

## Technical

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|---|--|
| Number of Main Contacts NO:                         | 3  |
| Number of Main Contacts NC:                         | 0  |
| Number of Auxiliary Contacts NO:                    | 2  |
| Number of Auxiliary Contacts NC:                    | 2  |
| 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 ( $I_{th}$ ): | acc. to IEC 60947-4-1, Open Contactors $q = 40\text{ °C}$ 50 A<br>acc. to IEC 60947-5-1, $q = 40\text{ °C}$ 16 A   |
| Rated Operational Current AC-1 ( $I_e$ ):           | (690 V) $40\text{ °C}$ 50 A<br>(690 V) $60\text{ °C}$ 42 A<br>(690 V) $70\text{ °C}$ 37 A  |
| Rated Operational Current AC-3 ( $I_e$ ):           | (220 / 230 / 240 V) $60\text{ °C}$ 40 A<br>(380 / 400 V) $60\text{ °C}$ 38 A<br>(415 V) $60\text{ °C}$ 38 A<br>(440 V) $60\text{ °C}$ 38 A<br>(500 V) $60\text{ °C}$ 33 A<br>(690 V) $60\text{ °C}$ 24 A |

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| Rated Operational Power AC-3 ( $P_e$ ):          | (220 / 230 / 240 V) 11 kW<br>(380 / 400 V) 18.5 kW<br>(415 V) 18.5 kW<br>(440 V) 22 kW<br>(500 V) 22 kW<br>(690 V) 22 kW  |
| Rated Operational Current AC-15 ( $I_e$ ):       | (220 / 240 V) 4 A<br>(24 / 127 V) 6 A<br>(400 / 440 V) 3 A<br>(500 V) 2 A<br>(690 V) 2 A  |
| Rated Short-time Withstand Current ( $I_{cw}$ ): | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 350 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 50 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 150 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 700 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 225 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 $I_e > 100$ A) at 440 V 500 A<br>cos phi=0.45 (cos phi=0.35 for $I_e > 100$ A) at 690 V 200 A  |
| Maximum Electrical Switching Frequency:          | AC-1 600 cycles per hour<br>AC-15 1200 cycles per hour<br>AC-2 / AC-4 150 cycles per hour<br>AC-3 1200 cycles per hour<br>DC-13 900 cycles per hour   |
| Rated Operational Current DC-13 ( $I_e$ ):       | (110 V) 0.55 A / 60 W<br>(125 V) 0.55 A / 69 W<br>(220 V) 0.27 A / 60 W<br>(24 V) 6 A / 144 W<br>(250 V) 0.27 A / 68 W<br>(400 V) 0.15 A / 60 W<br>(48 V) 2.8 A / 134 W<br>(500 V) 0.13 A / 65 W<br>(600 V) 0.1 A / 60 W<br>(72 V) 1 A / 72 W   |
| Rated Insulation Voltage ( $U_i$ ):              | acc. to UL/CSA 600 V<br>acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 690 V  |
| Rated Impulse Withstand Voltage ( $U_{imp}$ ):   | 6 kV  |
| Maximum Mechanical Switching Frequency:          | 3600 cycles per hour  |
| Rated Control Circuit Voltage ( $U_c$ ):         | 50 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  |

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| Connecting Capacity-Main Circuit:      | Flexible with Insulated Ferrule 1x 1.5...10 mm <sup>2</sup><br>Flexible with Insulated Ferrule 2x 1.5...4 mm <sup>2</sup><br>Flexible with Ferrule 1/2x 1.5...10 mm <sup>2</sup><br>Rigid 1/2x 2.5...10 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 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> |
| 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 14 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   |

## Environmental

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|---|--|
| Ambient Air Temperature:                        | Close to Contactor for Storage -60...+80 °C<br>Close to Contactor Fitted with Thermal O/L Relay -25 ... +60 °C<br>Close to Contactor without Thermal O/L Relay -40 ... +70 °C    |
| Maximum Operating Altitude Permissible:         | 3000 m   |
| 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<br>Shock Direction: C1 25 g<br>Shock Direction: C2 25 g |
| Resistance to Vibrations acc. to IEC 60068-2-6: | 5...300 Hz 4 g closed position / 2 g open position   |
| RoHS Status:                                    | Planned to follow EU Directive 2002/95/EC August 18, 2005 and amendment after 2008 Q1  |

## Technical UL/CSA

|                            |  |
|----------------------------|--|
| General Use Rating UL/CSA: | (600 V AC) 50 A  |
| Horsepower Rating UL/CSA:  | (120 V AC) Single Phase 2 Hp<br>(240 V AC) Single Phase 5 Hp<br>(200 ... 208 V AC) Three Phase 10 Hp<br>(220 ... 240 V AC) Three Phase 10 Hp<br>(440 ... 480 V AC) Three Phase 25 Hp<br>(550 ... 600 V AC) Three Phase 30 Hp |
| Tightening Torque UL/CSA:  | Auxiliary Circuit 11 in·lb<br>Control Circuit 11 in·lb<br>Main Circuit 22 in·lb  |

## Certificates and Declarations (Document Number)

|                                 |                               |
|---------------------------------|-------------------------------|
| ABS Certificate:                | ABS_15-GE1349500-PDA_90682247 |
| CB Certificate:                 | CB_SE_70856M1                 |
| CCC Certificate:                | CCC_2010010304445623          |
| cUL Certificate:                | UL_20091124-E312527-7-1       |
| Declaration of Conformity - CE: | 1SBD250165C1000               |
| DNV Certificate:                | DNV-GL_E13871                 |
| EAC Certificate:                | EAC_RU C-FR ME77 B01010       |
| GL Certificate:                 | DNV-GL_E13871                 |
| GOST Certificate:               | GOST_POCCFR.ME77.B07175.pdf   |
| LR Certificate:                 | LRS_1300087E1                 |
| RINA Certificate:               | RINA_ELE084013XG              |
| RMRS Certificate:               | RMRS_1400682124               |
| RoHS Information:               | 1SBD251012E1000               |

## Classifications

|         |   |
|---------|---|
| ETIM 5: | EC000066 - Magnet contactor, AC-switching |
| UNSPSC: | 39121529                                  |