

PRODUCT-DETAILS

# AF38ZB-30-00RT-22

## AF38ZB-30-00RT-22 48-130V50/60HZ-DC

### Contactors



#### General Information

|                       |   |
|-----------------------|---|
| Extended Product Type | AF38ZB-30-00RT-22                             |
| Product ID            | 1SBL296060R2200                               |
| EAN                   | 3471523129122                                 |
| Catalog Description   | AF38ZB-30-00RT-22 48-130V50/60HZ-DC Contactor |

|                  |  |
|------------------|--|
| Long Description | <p>The AF38ZB-30-00RT-22 is a 3 pole - 690 V IEC or 600 UL contactor with Ring-Tongue Terminals, controlling motors up to 18.5 kW / 400 V AC (AC-3) or 25 hp / 480 V UL and switching power circuits up to 50 A (AC-1) or 50 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> |
|------------------|--|

#### Ordering

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

#### Popular Downloads

|                          |                 |
|--------------------------|-----------------|
| Instructions and Manuals | 1SBC101035M6801 |
|--------------------------|-----------------|

CAD Dimensional  
Drawing

2CDC001079B0201

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**Dimensions**


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|                               |         |
|-------------------------------|---------|
| Product Net Width             | 45 mm   |
| Product Net Depth /<br>Length | 86 mm   |
| Product Net Height            | 86 mm   |
| Product Net Weight            | 0.36 kg |

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**Technical**


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|   |  |
|---|--|
| Number of Main Contacts<br>NO                         | 3  |
| Number of Main Contacts<br>NC                         | 0  |
| Number of Auxiliary<br>Contacts NO                    | 0  |
| Number of Auxiliary<br>Contacts NC                    | 0  |
| 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<br>Main Circuit 50 / 60 Hz  |
| Conventional Free-air<br>Thermal Current ( $I_{th}$ ) | acc. to IEC 60947-4-1, Open Contactors $\Theta = 40$ °C 50 A   |
| Rated Operational Current<br>AC-1 ( $I_e$ )           | (690 V) 40 °C 50 A<br>(690 V) 60 °C 42 A<br>(690 V) 70 °C 37 A   |
| Rated Operational Current<br>AC-3 ( $I_e$ )           | (415 V) 60 °C 38 A<br>(440 V) 60 °C 38 A<br>(500 V) 60 °C 33 A<br>(690 V) 60 °C 24 A<br>(380 / 400 V) 60 °C 38 A<br>(220 / 230 / 240 V) 60 °C 40 A   |
| Rated Operational Current<br>AC-3e ( $I_e$ )          | (415 V) 60 °C 38 A<br>(440 V) 60 °C 38 A<br>(500 V) 60 °C 33 A<br>(690 V) 60 °C 24 A<br>(380 / 400 V) 60 °C 38 A<br>(220 / 230 / 240 V) 60 °C 40 A   |
| Rated Operational Power<br>AC-3 ( $P_e$ )             | (415 V) 18.5 kW<br>(440 V) 22 kW<br>(500 V) 22 kW<br>(690 V) 22 kW<br>(380 / 400 V) 18.5 kW<br>(220 / 230 / 240 V) 11 kW   |
| Rated Operational Power<br>AC-3e ( $P_e$ )            | (415 V) 18.5 kW<br>(440 V) 22 kW<br>(500 V) 22 kW<br>(690 V) 22 kW<br>(380 / 400 V) 18.5 kW  |

(220 / 230 / 240 V) 11 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

Maximum Electrical  
 Switching Frequency

(AC-1) 600 cycles per hour  
 (AC-2 / AC-4) 150 cycles per hour  
 (AC-3) 1200 cycles per hour

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  
 (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 Insulation Voltage

acc. to IEC 60947-4-1 690 V  
 acc. to UL/CSA 600 V

(U<sub>i</sub>)

|   |  |
|---|--|
| 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 48 ... 130 V<br>60 Hz 48 ... 130 V<br>DC Operation 48 ... 130 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 |
| Mounting on DIN Rail                                | TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715<br>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  |
| Degree of Protection                                | acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP10<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP10   |
| Terminal Type                                       | Ring-Tongue Terminals  |

## Technical UL/CSA

|                                  |  |
|----------------------------------|--|
| Maximum Operating Voltage UL/CSA | Main Circuit 600 V   |
| General Use Rating UL/CSA        | (600 V AC) 50 A  |
| Horsepower Rating UL/CSA         | (120 V AC) Single Phase 2 hp<br>(200 ... 208 V AC) Three Phase 10 hp<br>(220 ... 240 V AC) Three Phase 10 hp<br>(240 V AC) Single Phase 5 hp<br>(440 ... 480 V AC) Three Phase 20 hp<br>(550 ... 600 V AC) Three Phase 25 hp |
| Tightening Torque UL/CSA         | Control Circuit 11 in-lb<br>Main Circuit 22 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   |
| Shock and Vibration Withstand acc. to IEC 61373 | Category 1, Class B   |
| RoHS Status                                     | Following EU Directive 2011/65/EU   |

## Certificates and Declarations

|                 |                      |
|-----------------|----------------------|
| CB Certificate  | CB_SE-96552          |
| CCC Certificate | CCC_2010010304445623 |
| CQC Certificate | CQC2010010304445623  |

|                                     |                         |
|-------------------------------------|-------------------------|
| Declaration of Conformity<br>- CCC  | 2020980304001254        |
| Declaration of Conformity<br>- CE   | 1SBD250004U1000         |
| Declaration of Conformity<br>- UKCA | 1SBD250035U1000         |
| EAC Certificate                     | EAC_RU C-FR ME77 B03597 |
| UL Listing Card                     | UL_E312527              |
| UR Certificate                      | UL_20121122-E312527_9_5 |

## Container Information

|                                   |               |
|-----------------------------------|---------------|
| Package Level 1 Units             | box 1 piece   |
| Package Level 1 Width             | 87 mm         |
| Package Level 1 Depth /<br>Length | 87 mm         |
| Package Level 1 Height            | 47 mm         |
| Package Level 1 Gross<br>Weight   | 0.36 kg       |
| Package Level 1 EAN               | 3471523129122 |
| Package Level 2 Units             | box 21 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   | 16.2 kg       |
| Package Level 3 Units             | 1080 piece    |

## Classifications

|                                       |   |
|---------------------------------------|---|
| 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  |
| ETIM 8                                | EC000066 - Power contactor, AC switching  |
| eClass                                | V11.0 : 27371003                          |
| UNSPSC                                | 39121529                                  |
| IDEA Granular Category<br>Code (IGCC) | 4758 >> Iec Contactors                    |

## Categories

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

