

## PRODUCT-DETAILS

# AF38Z-30-22-20

## AF38Z-30-22-20 12-20VDC Contactor



### General Information

|                       |                                   |
|-----------------------|-----------------------------------|
| Extended Product Type | AF38Z-30-22-20                    |
| Product ID            | 1SBL296001R2022                   |
| EAN                   | 3471523114906                     |
| Catalog Description   | AF38Z-30-22-20 12-20VDC Contactor |

#### Long Description

The AF38Z-30-22-20 is a 3 pole - 690 V IEC or 600 UL contactor with pre-mounted auxiliary contacts and screw 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 (12-20 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.

### Ordering

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

### Popular Downloads

|                          |                  |
|--------------------------|------------------|
| Instructions and Manuals | 1SBC101027M6801  |
| Dimension Diagram        | DNV_TAE00001AF-4 |

## Dimensions

|                            |          |
|----------------------------|----------|
| Product Net Width          | 45 mm    |
| Product Net Depth / Length | 119.5 mm |
| Product Net Height         | 86 mm    |
| Product Net Weight         | 0.4 kg   |

## Technical

|                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 $q = 40^\circ\text{C}$ 50 A<br>acc. to IEC 60947-5-1, $q = 40^\circ\text{C}$ 16 A                                                                                                                                                                                                                                                                                                                               |
| Rated Operational Current AC-1 ( $I_e$ )                    | (690 V) $40^\circ\text{C}$ 50 A<br>(690 V) $60^\circ\text{C}$ 42 A<br>(690 V) $70^\circ\text{C}$ 37 A                                                                                                                                                                                                                                                                                                                                                  |
| Rated Operational Current AC-3 ( $I_e$ )                    | (415 V) $60^\circ\text{C}$ 38 A<br>(440 V) $60^\circ\text{C}$ 38 A<br>(500 V) $60^\circ\text{C}$ 33 A<br>(690 V) $60^\circ\text{C}$ 24 A<br>(380 / 400 V) $60^\circ\text{C}$ 38 A<br>(220 / 230 / 240 V) $60^\circ\text{C}$ 40 A                                                                                                                                                                                                                       |
| Rated Operational Current AC-3e ( $I_e$ )                   | (415 V) $60^\circ\text{C}$ 38 A<br>(440 V) $60^\circ\text{C}$ 38 A<br>(500 V) $60^\circ\text{C}$ 33 A<br>(690 V) $60^\circ\text{C}$ 24 A<br>(380 / 400 V) $60^\circ\text{C}$ 38 A<br>(220 / 230 / 240 V) $60^\circ\text{C}$ 40 A                                                                                                                                                                                                                       |
| Rated Operational Power AC-3 ( $P_e$ )                      | (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<br>(380 / 400 V) 18.5 kW<br>(220 / 230 / 240 V) 11 kW                                                                                                                                                                                                                                                                                                            |
| Rated Operational Power 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<br>(220 / 230 / 240 V) 11 kW                                                                                                                                                                                                                                                                                                                               |
| Rated Operational Current AC-15 ( $I_e$ )                   | (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 ( $I_{cw}$ ) | at $40^\circ\text{C}$ Ambient Temp, in Free Air, from a Cold State 10 s 350 A<br>at $40^\circ\text{C}$ Ambient Temp, in Free Air, from a Cold State 15 min 50 A<br>at $40^\circ\text{C}$ Ambient Temp, in Free Air, from a Cold State 1 min 150 A<br>at $40^\circ\text{C}$ Ambient Temp, in Free Air, from a Cold State 1 s 700 A<br>at $40^\circ\text{C}$ 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 <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<br>(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> )     | DC Operation 12 ... 20 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                                | TH35-7.5 (35 x 7.5 mm Mounting Rail) acc. to IEC 60715<br>TH35-15 (35 x 15 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 1.5 ... 10 mm <sup>2</sup><br>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>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 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 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                                                                                                                                                                                                                                                        |

## 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>(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 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                                                                                                                                              |

## 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<br>Shock Direction: C1 25 g<br>Shock Direction: C2 25 g |
| RoHS Status                                    | Following EU Directive 2011/65/EU                                                                                                                                                |

## Certificates and Declarations (Document Number)

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| ABS Certificate                  | ABS_20-2060694-PDA                         |
| BV Certificate                   | BV_2634H24898B0                            |
| CB Certificate                   | CB_SE-96552M1                              |
| CCC Certificate                  | CCC_2010010304445623                       |
| CQC Certificate                  | CQC2010010304445623<br>CQC2020010304294316 |
| cUL Certificate                  | UL_20180227_E312527_7_1                    |
| Declaration of Conformity - CCC  | 2020980304001254<br>2020980304001052       |
| Declaration of Conformity - CE   | 1SBD250000U1000                            |
| Declaration of Conformity - UKCA | 1SBD250031U1000                            |
| EAC Certificate                  | EAC_RU_FRME77B03447                        |
| Environmental Information        | 1SBD250150E1000                            |
| GL Certificate                   | DNV-GL_TAE00001AF-3                        |
| GOST Certificate                 | GOST_POCCFR.ME77.B07175.pdf                |
| Instructions and Manuals         | 1SBC101027M6801                            |
| KC Certificate                   | KC_HW02016-15001C                          |
| 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 / Length | 121 mm        |
| Package Level 1 Height         | 47 mm         |
| Package Level 1 Gross Weight   | 0.4 kg        |
| Package Level 1 EAN            | 3471523114906 |
| Package Level 2 Units          | box 18 piece  |
| Package Level 2 Width          | 250 mm        |

|                                |           |
|--------------------------------|-----------|
| Package Level 2 Depth / Length | 300 mm    |
| Package Level 2 Height         | 315 mm    |
| Package Level 2 Gross Weight   | 14.4 kg   |
| Package Level 3 Units          | 864 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                                  |

Categories

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

