



PRODUCT-DETAILS

# AF30Z-30-00-20

## AF30Z-30-00-20 12-20VDC Contactor



| General Information   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | AF30Z-30-00-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Product ID            | 1SBL276001R2000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EAN                   | 3471523114401                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Catalog Description   | AF30Z-30-00-20 12-20VDC Contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Long Description      | The AF30Z-30-00-20 is a 3 pole - 690 V IEC or 600 UL contactor with screw terminals, controlling motors up to 15 kW / 400 V AC (AC-3) or 20 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 |
| CAD Dimensional Drawing  | 2CDC001079B0201 |

| Dimensions                 |         |
|----------------------------|---------|
| Product Net Width          | 45 mm   |
| Product Net Depth / Length | 86 mm   |
| Product Net Height         | 86 mm   |
| Product Net Weight         | 0.35 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                                   | 0                                                                                                                                                                                                          |
| Standards                                                         | IEC/EN 60947-1, IEC/EN 60947-4-1, UL 60947-4-1, CSA C22.2 No. 60947-4-1                                                                                                                                    |
| Rated Operational Voltage                                         | Main Circuit 690 V                                                                                                                                                                                         |
| Rated Frequency (f)                                               | Main Circuit 50 / 60 Hz                                                                                                                                                                                    |
| Conventional Free-air Thermal Current (I <sub>th</sub> )          | acc. to IEC 60947-4-1, Open Contactors $\Theta$ = 40 °C 50 A                                                                                                                                               |
| Rated Operational Current AC-1 (I <sub>e</sub> )                  | (690 V) 40 °C 50 A<br>(690 V) 60 °C 42 A<br>(690 V) 70 °C 37 A                                                                                                                                             |
| Rated Operational Current AC-3 (I <sub>e</sub> )                  | (415 V) 60 °C 32 A<br>(440 V) 60 °C 32 A<br>(500 V) 60 °C 28 A<br>(690 V) 60 °C 21 A<br>(380 / 400 V) 60 °C 32 A<br>(220 / 230 / 240 V) 60 °C 33 A                                                         |
| Rated Operational Current AC-3e (I <sub>e</sub> )                 | (415 V) 60 °C 32 A<br>(440 V) 60 °C 32 A<br>(500 V) 60 °C 28 A<br>(690 V) 60 °C 21 A<br>(380 / 400 V) 60 °C 32 A<br>(220 / 230 / 240 V) 60 °C 33 A                                                         |
| Rated Operational Power AC-3 (P <sub>e</sub> )                    | (400 V) 15 kW<br>(415 V) 15 kW<br>(440 V) 18.5 kW<br>(500 V) 18.5 kW<br>(690 V) 18.5 kW<br>(380 / 400 V) 15 kW<br>(220 / 230 / 240 V) 9 kW                                                                 |
| Rated Operational Power AC-3e (P <sub>e</sub> )                   | (415 V) 15 kW<br>(440 V) 18.5 kW<br>(500 V) 18.5 kW<br>(690 V) 18.5 kW<br>(380 / 400 V) 15 kW<br>(220 / 230 / 240 V) 9 kW                                                                                  |
| 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 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 |

|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                     | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Maximum Breaking Capacity                           | cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 440 V 500 A<br>cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 690 V 200 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Maximum Electrical Switching Frequency              | (AC-1) 600 cycles per hour<br>(AC-2 / AC-4) 150 cycles per hour<br>(AC-3) 1200 cycles per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Rated Operational Current DC-1 (I <sub>e</sub> )    | (110 V) 2 Poles in Series, 40 °C 50 A<br>(110 V) 2 Poles in Series, 60 °C 42 A<br>(110 V) 2 Poles in Series, 70 °C 37 A<br>(110 V) 3 Poles in Series, 40 °C 50 A<br>(110 V) 3 Poles in Series, 60 °C 42 A<br>(110 V) 3 Poles in Series, 70 °C 37 A<br>(220 V) 3 Poles in Series, 40 °C 50 A<br>(220 V) 3 Poles in Series, 60 °C 42 A<br>(220 V) 3 Poles in Series, 70 °C 37 A<br>(72 V) 1-Pole, 40 °C 50 A<br>(72 V) 1-Pole, 60 °C 42 A<br>(72 V) 1-Pole, 70 °C 37 A<br>(72 V) 2 Poles in Series, 40 °C 50 A<br>(72 V) 2 Poles in Series, 60 °C 42 A<br>(72 V) 2 Poles in Series, 70 °C 37 A<br>(72 V) 3 Poles in Series, 40 °C 50 A<br>(72 V) 3 Poles in Series, 60 °C 42 A<br>(72 V) 3 Poles in Series, 70 °C 37 A |
| Rated Operational Current DC-3 (I <sub>e</sub> )    | (110 V) 2 Poles in Series, 40 °C 50 A<br>(110 V) 2 Poles in Series, 60 °C 42 A<br>(110 V) 2 Poles in Series, 70 °C 37 A<br>(110 V) 3 Poles in Series, 40 °C 50 A<br>(110 V) 3 Poles in Series, 60 °C 42 A<br>(110 V) 3 Poles in Series, 70 °C 37 A<br>(220 V) 3 Poles in Series, 40 °C 50 A<br>(220 V) 3 Poles in Series, 60 °C 42 A<br>(220 V) 3 Poles in Series, 70 °C 37 A<br>(72 V) 1-Pole, 40 °C 50 A<br>(72 V) 1-Pole, 60 °C 42 A<br>(72 V) 1-Pole, 70 °C 37 A<br>(72 V) 2 Poles in Series, 40 °C 50 A<br>(72 V) 2 Poles in Series, 60 °C 42 A<br>(72 V) 2 Poles in Series, 70 °C 37 A<br>(72 V) 3 Poles in Series, 40 °C 50 A<br>(72 V) 3 Poles in Series, 60 °C 42 A<br>(72 V) 3 Poles in Series, 70 °C 37 A |
| Rated Operational Current DC-5 (I <sub>e</sub> )    | (110 V) 2 Poles in Series, 40 °C 50 A<br>(110 V) 2 Poles in Series, 60 °C 42 A<br>(110 V) 2 Poles in Series, 70 °C 37 A<br>(110 V) 3 Poles in Series, 40 °C 50 A<br>(110 V) 3 Poles in Series, 60 °C 42 A<br>(110 V) 3 Poles in Series, 70 °C 37 A<br>(220 V) 3 Poles in Series, 40 °C 25 A<br>(220 V) 3 Poles in Series, 60 °C 25 A<br>(220 V) 3 Poles in Series, 70 °C 25 A<br>(72 V) 1-Pole, 40 °C 25 A<br>(72 V) 1-Pole, 60 °C 25 A<br>(72 V) 1-Pole, 70 °C 25 A<br>(72 V) 2 Poles in Series, 40 °C 50 A<br>(72 V) 2 Poles in Series, 60 °C 42 A<br>(72 V) 2 Poles in Series, 70 °C 37 A<br>(72 V) 3 Poles in Series, 40 °C 50 A<br>(72 V) 3 Poles in Series, 60 °C 42 A<br>(72 V) 3 Poles in Series, 70 °C 37 A |
| Rated Insulation Voltage (U <sub>i</sub> )          | acc. to IEC 60947-4-1 690 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                               | DC Operation 12 ... 20 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                     |                                                                                                                                                                                                                                                                                              |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Voltage (U <sub>c</sub> )           |                                                                                                                                                                                                                                                                                              |
| 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                                                                                                                                                                                                                                                              |
| 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 Solid 1/2x 2.5 ... 4 mm <sup>2</sup><br>Rigid Stranded 1/2x 2.5 ... 10 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 Solid 1/2x 1 ... 2.5 mm <sup>2</sup><br>Rigid Stranded 1/2x 1 ... 2.5 mm <sup>2</sup> |
| Wire Stripping Length               | Control Circuit 10 mm<br>Main Circuit 14 mm                                                                                                                                                                                                                                                  |
| Degree of Protection                | 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

|                                            |                                                                                                                                                                                                                              |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 |
| Connecting Capacity Main Circuit UL/CSA    | Rigid Solid 1/2x 14-10 AWG<br>Rigid Stranded 1/2x 14-8 AWG                                                                                                                                                                   |
| Connecting Capacity Control Circuit UL/CSA | Rigid Solid 1/2x 18-14 AWG<br>Rigid Stranded 1/2x 18-14 AWG                                                                                                                                                                  |
| 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                                                                                                                                                          |
| 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                   | 4g Closed Position & 2g Open position 5 ... 300 Hz                                                                                                                               |

| Material Compliance                         |                                                            |
|---------------------------------------------|------------------------------------------------------------|
| Conflict Minerals Reporting Template (CMRT) | 9AKK108467A5658                                            |
| REACH Declaration                           | 2CMT2021-006202                                            |
| RoHS Information                            | 2CMT2021-006277                                            |
| RoHS Status                                 | Following EU Directive 2011/65/EU                          |
| Toxic Substances Control Act - TSCA         | 2CMT2023-006525                                            |
| WEEE B2C / B2B                              | Business To Business                                       |
| WEEE Category                               | 5. Small Equipment (No External Dimension More Than 50 cm) |

| Certificates and Declarations    |                                            |
|----------------------------------|--------------------------------------------|
| ABS Certificate                  | ABS_20-2060694-PDA                         |
| BV Certificate                   | BV_2634H24898C0                            |
| CB Certificate                   | CB_SE-112316                               |
| CCC Certificate                  | CCC_2010010304445623                       |
| CQC Certificate                  | CQC2010010304445623<br>CQC2020010304294316 |
| Declaration of Conformity - CCC  | 2020980304001254<br>2020980304001052       |
| Declaration of Conformity - CE   | 1SBD250000U1000                            |
| Declaration of Conformity - UKCA | 1SBD250031U1000                            |
| DNV Certificate                  | DNV_TAE00001AF-4                           |
| EAC Certificate                  | EAC_RU_FRME77B03447                        |
| GOST Certificate                 | GOST_POCCFR.ME77.B07175.pdf                |
| KC Certificate                   | KC_HW02016-15001C                          |
| LR Certificate                   | LRS_LR23403517TA-02                        |
| RINA Certificate                 | RINA_ELE240318XG                           |
| RMRS Certificate                 | RMRS_1802705280                            |
| UL Certificate                   | UL-US-2150887-5<br>UL-CA-2142658-5         |
| UL Listing Card                  | E312527                                    |

| Container Information          |               |
|--------------------------------|---------------|
| Package Level 1 Units          | box 1 piece   |
| Package Level 1 Width          | 87 mm         |
| Package Level 1 Depth / Length | 87 mm         |
| Package Level 1 Height         | 47 mm         |
| Package Level 1 Gross Weight   | 0.35 kg       |
| Package Level 1 EAN            | 3471523114401 |
| Package Level 2 Units          | box 21 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   | 15.75 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 Code (IGCC) | 4758 >> Iec Contactors                    |   |
| E-Number (Finland)                 | 3706293                                   |   |

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF30

