



PRODUCT-DETAILS

**AF09-22-00-11**  
AF09-22-00-11 24-60V50/60HZ 20-60VDC  
Contactor



| General Information   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | AF09-22-00-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Product ID            | 1SBL137501R1100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EAN                   | 3471523116214                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Catalog Description   | AF09-22-00-11 24-60V50/60HZ 20-60VDC Contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Long Description      | The AF09-22-00-11 is a 4 pole - 690 V IEC or 600 UL contactor with screw terminals, controlling motors up to 4 kW / 400 V AC (AC-3) and switching power circuits up to 25 A (AC-1) or 25 A UL general use. Thanks to the AF technology, the contactor has a wide control voltage range (24-60 V 50/60 Hz and 20-60 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 | 77 mm   |
| Product Net Height         | 86 mm   |
| Product Net Weight         | 0.27 kg |

## Technical

|                                                             |                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Main Contacts NO                                  | 2                                                                                                                                                                                                                                                                                                                                               |
| Number of Main Contacts NC                                  | 2                                                                                                                                                                                                                                                                                                                                               |
| Number of Auxiliary Contacts NO                             | 0                                                                                                                                                                                                                                                                                                                                               |
| Number of Auxiliary Contacts NC                             | 0                                                                                                                                                                                                                                                                                                                                               |
| Standards                                                   | IEC/EN 60947-1, IEC/EN 60947-4-1, UL 60947-1, UL 60947-4-1, CAN/CSA C22.2 No.60947-1, CAN/CSA C22.2 No.60947-4-1                                                                                                                                                                                                                                |
| Rated Operational Voltage                                   | Main Circuit 690 V                                                                                                                                                                                                                                                                                                                              |
| Rated Frequency (f)                                         | Control 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 $\Theta = 40\text{ °C}$ 35 A                                                                                                                                                                                                                                                                             |
| Rated Operational Current AC-1 ( $I_e$ )                    | (690 V) 40 °C 25 A<br>(690 V) 60 °C 25 A<br>(690 V) 70 °C 22 A                                                                                                                                                                                                                                                                                  |
| Rated Operational Current AC-3 ( $I_e$ )                    | (415 V) 60 °C 9 A<br>(440 V) 60 °C 9 A<br>(500 V) 60 °C 9.5 A<br>(690 V) 60 °C 7 A<br>(380 / 400 V) 60 °C 9 A<br>(220 / 230 / 240 V) 60 °C 9 A                                                                                                                                                                                                  |
| Rated Operational Power AC-3 ( $P_e$ )                      | (400 V) 4 kW<br>(415 V) 4 kW<br>(440 V) 4 kW<br>(500 V) 5.5 kW<br>(690 V) 5.5 kW<br>(380 / 400 V) 4 kW<br>(220 / 230 / 240 V) 2.2 kW                                                                                                                                                                                                            |
| Rated Short-time Withstand Current Low Voltage ( $I_{cw}$ ) | 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 |
| Maximum Breaking Capacity                                   | cos phi=0.45 (cos phi=0.35 for $I_e > 100\text{ A}$ ) at 440 V 250 A<br>cos phi=0.45 (cos phi=0.35 for $I_e > 100\text{ A}$ ) at 690 V 106 A                                                                                                                                                                                                    |
| Maximum Electrical Switching Frequency                      | (AC-1) 600 cycles per hour                                                                                                                                                                                                                                                                                                                      |
| Rated Insulation Voltage ( $U_i$ )                          | acc. to IEC 60947-4-1 690 V<br>acc. to UL/CSA 600 V                                                                                                                                                                                                                                                                                             |
| Rated Impulse                                               | 6 kV                                                                                                                                                                                                                                                                                                                                            |

|                                                 |                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Withstand Voltage (U <sub>imp</sub> )           |                                                                                                                                                                                                                                                                                              |
| Maximum Mechanical Switching Frequency          | 3600 cycles per hour                                                                                                                                                                                                                                                                         |
| Rated Control Circuit Voltage (U <sub>c</sub> ) | 50 Hz 24 ... 60 V<br>60 Hz 24 ... 60 V<br>DC Operation 20 ... 60 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                                                                                                                                                                                                                                                              |
| 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 Solid 1/2x 1 ... 4 mm <sup>2</sup><br>Rigid Stranded 1/2x 1 ... 6 mm <sup>2</sup>         |
| Connecting Capacity Auxiliary Circuit           | Rigid Solid 1/2x 1 ... 2.5 mm <sup>2</sup><br>Rigid Stranded 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 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 10 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) 25 A                                             |
| Connecting Capacity Main Circuit UL/CSA      | Rigid Solid 1/2x 16-10 AWG<br>Rigid Stranded 1/2x 16-10 AWG |
| Connecting Capacity Auxiliary Circuit UL/CSA | Rigid Solid 1/2x 18-14 AWG<br>Rigid Stranded 1/2x 18-14 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 13 in-lb           |

## Environmental

|                                            |                                                                                                                                                                                  |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient Air Temperature                    | Close to Contactor for Storage -60 ... +80 °C<br>Near Contactor for Operation in Free Air -40 ... 70 °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) |

Circular Value

|                          |                 |
|--------------------------|-----------------|
| End of Life Instructions | 1SBC101080M6801 |
|--------------------------|-----------------|

Eco Transparency

|                                         |                                    |
|-----------------------------------------|------------------------------------|
| Environmental Product Declaration - EPD | 1SBD250584E3000<br>2TFP200035A1001 |
|-----------------------------------------|------------------------------------|

Certificates and Declarations

|                                  |                                                            |
|----------------------------------|------------------------------------------------------------|
| ABS Certificate                  | ABS_20-2060694-PDA                                         |
| CB Certificate                   | CB_SE-108879                                               |
| CCC Certificate                  | CCC_2010010304445624                                       |
| CQC Certificate                  | CQC2010010304445624<br>CQC2020010304298240                 |
| Declaration of Conformity - CCC  | 2020980304001253<br>2020980304001082                       |
| Declaration of Conformity - CE   | 1SBD250001U1000                                            |
| Declaration of Conformity - UKCA | 1SBD250032U1000                                            |
| DNV Certificate                  | DNV_TAE00001AF-4                                           |
| EAC Certificate                  | EAC_RU_FRME77B03447                                        |
| GOST Certificate                 | GOST_POCCFR.ME77.B07175.pdf                                |
| KC Certificate                   | KC_HW02016-15007C                                          |
| LR Certificate                   | LRS_LR23403517TA-02                                        |
| RINA Certificate                 | RINA_ELE084013XG                                           |
| RMRS Certificate                 | RMRS_1802705280                                            |
| UL Certificate                   | UL-US-L319322-13-72119002-5<br>UL-CA-L319322-43-72119002-6 |
| UL Listing Card                  | UL_E319322                                                 |

Container Information

|                         |             |
|-------------------------|-------------|
| Package Level 1 Units   | box 1 piece |
| Package Level 1 Width   | 87 mm       |
| Package Level 1 Depth / | 79 mm       |

|                                |               |
|--------------------------------|---------------|
| Length                         |               |
| Package Level 1 Height         | 47 mm         |
| Package Level 1 Gross Weight   | 0.27 kg       |
| Package Level 1 EAN            | 3471523116214 |
| Package Level 2 Units          | box 27 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   | 14.58 kg      |
| Package Level 3 Units          | 1296 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)                 | 3705811                                   |   |
| E-Number (Sweden)                  | 3211407                                   |   |

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF09

