

## PRODUCT-DETAILS

# AF52-40-00-13

## AF52-40-00-13 100-250V50/60HZ-DC Contactor



### General Information

|                       |                                            |
|-----------------------|--------------------------------------------|
| Extended Product Type | AF52-40-00-13                              |
| Product ID            | 1SBL367201R1300                            |
| EAN                   | 3471523133631                              |
| Catalog Description   | AF52-40-00-13 100-250V50/60HZ-DC Contactor |

#### Long Description

The AF52-40-00-13 is a 4 pole - 690 V IEC or 600 UL contactor with screw terminals, controlling motors up to 22 kW / 400 V AC (AC-3) and switching power circuits up to 100 A (AC-1) or 80 A UL general use. Thanks to the AF technology, the contactor has a wide control voltage range (100-250 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.

### Ordering

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

### Popular Downloads

|                          |                 |
|--------------------------|-----------------|
| Instructions and Manuals | 1SBC101047M6801 |
| CAD Dimensional Drawing  | 2CDC001079B0201 |

## Dimensions

|                            |          |
|----------------------------|----------|
| Product Net Width          | 70 mm    |
| Product Net Depth / Length | 113.5 mm |
| Product Net Height         | 125.5 mm |
| Product Net Weight         | 1.16 kg  |

## Technical

|                                                             |                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Main Contacts NO                                  | 4                                                                                                                                                                                                                                                                                                                                                   |
| 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 60947-1, UL 60947-4-1, CSA C22.2 No. 60947-1:22, CSA C22.2 No. 60947-4-1:22                                                                                                                                                                                                                                    |
| 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 $\Theta = 40\text{ °C}$ 105 A                                                                                                                                                                                                                                                                                |
| Rated Operational Current AC-1 ( $I_e$ )                    | (690 V) 40 °C 100 A<br>(690 V) 60 °C 80 A<br>(690 V) 70 °C 70 A                                                                                                                                                                                                                                                                                     |
| Rated Operational Current AC-3 ( $I_e$ )                    | (415 V) 60 °C 53 A<br>(440 V) 60 °C 53 A<br>(500 V) 60 °C 45 A<br>(690 V) 60 °C 35 A<br>(380 / 400 V) 60 °C 53 A<br>(220 / 230 / 240 V) 60 °C 53 A                                                                                                                                                                                                  |
| Rated Operational Power AC-3 ( $P_e$ )                      | (415 V) 30 kW<br>(440 V) 30 kW<br>(500 V) 30 kW<br>(690 V) 30 kW<br>(380 / 400 V) 22 kW<br>(220 / 230 / 240 V) 15 kW                                                                                                                                                                                                                                |
| Rated Short-time Withstand Current Low Voltage ( $I_{cw}$ ) | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 600 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 110 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 250 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1000 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 350 A |
| Maximum Breaking Capacity                                   | cos phi=0.45 (cos phi=0.35 for $I_e > 100\text{ A}$ ) at 440 V 950 A<br>cos phi=0.45 (cos phi=0.35 for $I_e > 100\text{ A}$ ) at 690 V 600 A                                                                                                                                                                                                        |
| Maximum Electrical Switching Frequency                      | (AC-1) 600 cycles per hour                                                                                                                                                                                                                                                                                                                          |

|                                                        |                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Insulation Voltage<br>(U <sub>i</sub> )          | acc. to IEC 60947-4-1 690 V<br>acc. to UL/CSA 600 V                                                                                                                                                                                                                                          |
| Rated Impulse Withstand<br>Voltage (U <sub>imp</sub> ) | 6 kV                                                                                                                                                                                                                                                                                         |
| Maximum Mechanical<br>Switching Frequency              | 3600 cycles per hour                                                                                                                                                                                                                                                                         |
| Rated Control Circuit<br>Voltage (U <sub>c</sub> )     | 50 Hz 100 ... 250 V<br>60 Hz 100 ... 250 V<br>DC Operation 100 ... 250 V                                                                                                                                                                                                                     |
| Coil Consumption                                       | Average Holding Value 50 / 60 Hz 4 V·A<br>Average Holding Value 50 Hz 4 V·A<br>Average Holding Value 60 Hz 4 V·A<br>Average Holding Value DC 2 W<br>Average Holding Value, from Warm State 2 W                                                                                               |
| Mounting on DIN Rail                                   | TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715                                                                                                                                                                                                                                         |
| Mounting by Screws (not<br>supplied)                   | 2 x M4 or 2 x M6 screws placed diagonally                                                                                                                                                                                                                                                    |
| Connecting Capacity Main<br>Circuit                    | Flexible with Ferrule 1/2x 4 ... 35 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1/2x 4 ... 35 mm <sup>2</sup><br>Rigid Stranded 1/2x 6 ... 35 mm <sup>2</sup>                                                                                                                         |
| Connecting Capacity<br>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 16 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 IP10                                                                                                                                                                 |
| Terminal Type                                          | Screw Terminals                                                                                                                                                                                                                                                                              |

## Technical UL/CSA

|                                               |                                                             |
|-----------------------------------------------|-------------------------------------------------------------|
| Maximum Operating<br>Voltage UL/CSA           | Main Circuit 600 V                                          |
| General Use Rating<br>UL/CSA                  | (600 V AC) 80 A                                             |
| Connecting Capacity Main<br>Circuit UL/CSA    | Rigid Stranded 1/2x 10-2 AWG                                |
| Connecting Capacity<br>Control Circuit UL/CSA | Rigid Solid 1/2x 18-14 AWG<br>Rigid Stranded 1/2x 18-14 AWG |
| Tightening Torque<br>UL/CSA                   | Control Circuit 11 in·lb<br>Main Circuit 35 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<br>Altitude Permissible | Without Derating 3000 m                                                                                 |
| REACH Declaration                         | 2CMT2021-006202                                                                                         |
| Resistance to Vibrations                  | 5 ... 300 Hz 3 g Closed position / 2 g Open position                                                    |

acc. to IEC 60068-2-6

RoHS Information

2CMT2021-006277

RoHS Status

Following EU Directive 2011/65/EU

## Certificates and Declarations

|                                     |                                                                |
|-------------------------------------|----------------------------------------------------------------|
| ABS Certificate                     | ABS_20-2060694-PDA                                             |
| BV Certificate                      | BV_2634H36994B1                                                |
| CB Certificate                      | CB_SE-108889A1M1                                               |
| CCC Certificate                     | CCC_2015010304824714                                           |
| CQC Certificate                     | CQC2015010304824714                                            |
| Declaration of Conformity<br>- CCC  | 2020980304001256                                               |
| Declaration of Conformity<br>- CE   | 1SBD250001U1000                                                |
| Declaration of Conformity<br>- UKCA | 1SBD250032U1000                                                |
| DNV Certificate                     | DNV_TAE00001AF-4                                               |
| EAC Certificate                     | EAC_RU_FRME77B03447                                            |
| KC Certificate                      | KC_HW02016-15012C                                              |
| LR Certificate                      | LRS_LR2002723TA-02                                             |
| RMRS Certificate                    | RMRS_1400682124                                                |
| UL Certificate                      | UL-US-L312527-1142-02114102-6<br>UL-CA-L312527-4142-02114102-6 |
| UL Listing Card                     | UL_E312527                                                     |

## Container Information

|                                   |               |
|-----------------------------------|---------------|
| Package Level 1 Units             | box 1 piece   |
| Package Level 1 Width             | 150 mm        |
| Package Level 1 Depth /<br>Length | 150 mm        |
| Package Level 1 Height            | 103 mm        |
| Package Level 1 Gross<br>Weight   | 1.27 kg       |
| Package Level 1 EAN               | 3471523133631 |
| Package Level 2 Units             | box 8 piece   |
| Package Level 2 Width             | 250 mm        |
| Package Level 2 Depth /<br>Length | 300 mm        |
| Package Level 2 Height            | 300 mm        |
| Package Level 2 Gross<br>Weight   | 10.16 kg      |
| Package Level 3 Units             | 192 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)                 | 3707262                                   |   |
| E-Number (Sweden)                  | 3210311                                   |   |

