

## PRODUCT-DETAILS

# AF16-40-00-12

## AF16-40-00-12 48-130V50/60HZ-DC Contactor



### General Information

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | AF16-40-00-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Product ID            | 1SBL177201R1200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EAN                   | 3471523115125                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Catalog Description   | AF16-40-00-12 48-130V50/60HZ-DC Contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Long Description      | The AF16-40-00-12 is a 4 pole - 690 V IEC or 600 UL contactor with screw terminals, controlling motors up to 7.5 kW / 400 V AC (AC-3) and switching power circuits up to 30 A (AC-1) or 30 A UL general use. Thanks to the AF technology, the contactor has a wide control voltage range (48-130 V 50/60 Hz and DC), managing large control voltage variations, reducing panel energy consumptions and ensuring distinct operations in unstable networks. Furthermore, surge protection is built-in, offering a compact solution. AF contactors have a block type design, can be easily extended with add-on auxiliary contact blocks and an additional wide range of accessories. |

### 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 | 77 mm   |
| Product Net Height         | 86 mm   |
| Product Net Weight         | 0.27 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 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1, UL 508, CSA C22.2 N° 14                                                                                                                                                                                                                                                                                          |
| 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 q = 40 °C 35 A                                                                                                                                                                                                                                                                                                                |
| Rated Operational Current AC-1 (I <sub>e</sub> )                  | (690 V) 40 °C 30 A<br>(690 V) 60 °C 30 A<br>(690 V) 70 °C 26 A                                                                                                                                                                                                                                                                                                       |
| Rated Operational Current AC-3 (I <sub>e</sub> )                  | (415 V) 60 °C 18 A<br>(440 V) 60 °C 18 A<br>(500 V) 60 °C 15 A<br>(690 V) 60 °C 10.5 A<br>(380 / 400 V) 60 °C 18 A<br>(220 / 230 / 240 V) 60 °C 18 A                                                                                                                                                                                                                 |
| Rated Operational Power AC-3 (P <sub>e</sub> )                    | (400 V) 7.5 kW<br>(415 V) 9 kW<br>(440 V) 9 kW<br>(500 V) 9 kW<br>(690 V) 9 kW<br>(380 / 400 V) 7.5 kW<br>(220 / 230 / 240 V) 4 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 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<br>for 1 s -empty- A |
| Maximum Breaking Capacity                                         | cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 440 V 250 A<br>cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 690 V 106 A                                                                                                                                                                                                                       |
| Maximum Electrical Switching Frequency                            | (AC-1) 600 cycles per hour                                                                                                                                                                                                                                                                                                                                           |
| 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> )                   | 50 Hz 48 ... 130 V<br>60 Hz 48 ... 130 V<br>DC Operation 48 ... 130 V                                                                                                                                                                                                                                                                                                |
| Operate Time                                                      | Between Coil De-energization and NC Contact Closing 13 ... 98 ms<br>Between Coil De-energization and NO Contact Opening 11 ... 95 ms<br>Between Coil Energization and NC Contact Opening 38 ... 90 ms<br>Between Coil Energization and NO Contact Closing 40 ... 95 ms                                                                                               |
| Mounting on DIN Rail                                              | TH35-7.5 (35 x 7.5 mm Mounting Rail) acc. to IEC 60715                                                                                                                                                                                                                                                                                                               |

|                                     |                                                                                                                                                                                                                                       |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | 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 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 1/2x 1 ... 6 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               | 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

|                           |                                                   |
|---------------------------|---------------------------------------------------|
| General Use Rating UL/CSA | (600 V AC) 30 A                                   |
| 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 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-96551M1                              |
| 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                            |
| EAC Certificate                  | EAC_RU_FRME77B03447                        |
| Environmental Information        | 1SBD250147E1000                            |
| GL Certificate                   | DNV-GL_TAE00001AF-3                        |
| GOST Certificate                 | GOST_POCCFR.ME77.B07175.pdf                |
| Instructions and Manuals         | 1SBC101027M6801                            |

|                  |                         |
|------------------|-------------------------|
| KC Certificate   | KC_HW02016-15008C       |
| LR Certificate   | LRS_1300087E1           |
| RINA Certificate | RINA_ELE240318XG        |
| RMRS Certificate | RMRS_1802705280         |
| RoHS Information | 1SBD250001U1000         |
| UL Certificate   | UL_20171228-E319322_3_1 |
| UL Listing Card  | UL_E319322              |

## Container Information

|                                |               |
|--------------------------------|---------------|
| Package Level 1 Units          | box 1 piece   |
| Package Level 1 Width          | 87 mm         |
| Package Level 1 Depth / Length | 79 mm         |
| Package Level 1 Height         | 47 mm         |
| Package Level 1 Gross Weight   | 0.27 kg       |
| Package Level 1 EAN            | 3471523115125 |
| 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                                  |
| E-Number (Finland)         | 3706336                                   |
| E-Number (Sweden)          | 3211397                                   |

## Categories

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

