

## General Information

|                               |   |
|-------------------------------|---|
| <b>Extended Product Type:</b> | AF16-30-01-14   |
| <b>Product ID:</b>            | 1SBL177001R1401   |
| <b>EAN:</b>                   | 3471523110748   |
| <b>Catalog Description:</b>   | AF16-30-01-14 250-500V50/60HZ-DC Contactor  |
| <b>Long Description:</b>      | AF16 contactors are used for controlling power circuits up to 690 V AC and 220 V DC. They are mainly used for controlling 3-phase motors, non-inductive or slightly inductive loads. AF... contactors include an electronic coil interface accepting a wide control voltage $U_c$ min. ... $U_c$ max. Only four coils cover control voltages between 24...500 V 50/60 Hz or 20...500 V DC. AF contactors can manage large control voltage variations. One coil can be used for different control voltages used worldwide without any coil change. AF contactors have built-in surge protection and do not require additional surge suppressors. The AF... series 1-stack 3-pole contactors are of the block type design. - Main poles and auxiliary contact blocks: 3 main poles, 1 built-in auxiliary contact, front and side-mounted add-on auxiliary contact blocks (mechanically-linked auxiliary contacts compliant with Annex L of IEC 60947-5-1. N.C. mirror contacts compliant with Annex F of IEC 60947-4-1) - Control circuit: AC or DC operated - Accessories: a wide range of accessories is available. |

## Categories

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

## Ordering

|                                |               |
|--------------------------------|---------------|
| <b>Minimum Order Quantity:</b> | 1 piece       |
| <b>Customs Tariff Number:</b>  | 85369085      |
| <b>EAN:</b>                    | 3471523110748 |

## Dimensions

|                            |          |
|----------------------------|----------|
| <b>Product Net Depth:</b>  | 77 mm    |
| <b>Product Net Height:</b> | 86 mm    |
| <b>Product Net Weight:</b> | 0.310 kg |
| <b>Product Net Width:</b>  | 45 mm    |

## Container Information

|                                      |               |
|--------------------------------------|---------------|
| <b>Package Level 1 Width:</b>        | 87 mm         |
| <b>Package Level 1 Length:</b>       | 79 mm         |
| <b>Package Level 1 Height:</b>       | 47 mm         |
| <b>Package Level 1 Gross Weight:</b> | 0.31 kg       |
| <b>Package Level 1 EAN:</b>          | 3471523110748 |
| <b>Package Level 2 Units:</b>        | 54 piece      |
| <b>Package Level 2 Width:</b>        | 250 mm        |
| <b>Package Level 2 Length:</b>       | 300 mm        |
| <b>Package Level 2 Height:</b>       | 315 mm        |
| <b>Package Level 3 Units:</b>        | 1296 piece    |
| <b>Package Level 1 Units:</b>        | 1 piece       |

## Technical

|   |  |
|---|--|
| <b>Number of Main Contacts NC:</b>                                  | 0  |
| <b>Number of Auxiliary Contacts NO:</b>                             | 0  |
| <b>Number of Auxiliary Contacts NC:</b>                             | 1  |
| <b>Standards:</b>   | IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1, UL 508, CSA C22.2 N°14   |
| <b>Rated Operational Voltage:</b>                                   | Auxiliary Circuit 690 V<br>Main Circuit 690 V  |
| <b>Rated Frequency (f):</b>   | Auxiliary Circuit 50 / 60 Hz<br>Main Circuit 50 / 60 Hz  |
| <b>Conventional Free-air Thermal Current (<math>I_{th}</math>):</b> | acc. to IEC 60947-4-1, Open Contactors $q = 40$ °C 35 A<br>acc. to IEC 60947-5-1, $q = 40$ °C 16 A   |
| <b>Rated Operational Current AC-1 (<math>I_e</math>):</b>           | (690 V) 40 °C 30 A<br>(690 V) 60 °C 30 A<br>(690 V) 70 °C 26 A   |
| <b>Rated Operational Current AC-3 (<math>I_e</math>):</b>           | (220 / 230 / 240 V) 60 °C 18 A<br>(380 / 400 V) 60 °C 18 A<br>(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 |

|   |   |
|---|---|
| <b>Rated Operational Power AC-3 (P<sub>e</sub>):</b>        | (220 / 230 / 240 V) 4 kW<br>(380 / 400 V) 7.5 kW<br>(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  |
| <b>Rated Operational Current AC-15 (I<sub>e</sub>):</b>     | (220 / 240 V) 4 A<br>(24 / 127 V) 6 A<br>(400 / 440 V) 3 A<br>(500 V) 2 A<br>(690 V) 2 A  |
| <b>Rated Short-time Withstand Current (I<sub>cw</sub>):</b> | 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 0.1 s 140 A<br>for 1 s 100 A |
| <b>Maximum Breaking Capacity:</b>                           | 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  |
| <b>Maximum Electrical Switching Frequency:</b>              | AC-1 600 cycles per hour<br>AC-15 1200 cycles per hour<br>AC-2 / AC-4 300 cycles per hour<br>AC-3 1200 cycles per hour<br>DC-13 900 cycles per hour   |
| <b>Rated Operational Current DC-13 (I<sub>e</sub>):</b>     | (110 V) 0.55 A / 60 W<br>(125 V) 0.55 A / 69 W<br>(220 V) 0.27 A / 60 W<br>(24 V) 6 A / 144 W<br>(250 V) 0.27 A / 68 W<br>(400 V) 0.15 A / 60 W<br>(48 V) 2.8 A / 134 W<br>(500 V) 0.13 A / 65 W<br>(600 V) 0.1 A / 60 W<br>(72 V) 1 A / 72 W   |
| <b>Rated Insulation Voltage (U<sub>i</sub>):</b>            | acc. to UL/CSA 600 V<br>acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 690 V  |
| <b>Rated Impulse Withstand Voltage (U<sub>imp</sub>):</b>   | 6 kV  |
| <b>Maximum Mechanical Switching Frequency:</b>              | 3600 cycles per hour  |
| <b>Rated Control Circuit Voltage (U<sub>c</sub>):</b>       | 50 Hz 250 ... 500 V<br>60 Hz 250 ... 500 V<br>DC Operation 250 ... 500 V  |
| <b>Operate Time:</b>  | 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  |
| <b>Connecting Capacity Main Circuit:</b>                    | 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>Flexible with Ferrule 1/2x 0.75...6 mm <sup>2</sup><br>Rigid 1/2x 1...6 mm <sup>2</sup>   |
| <b>Connecting Capacity Auxiliary Circuit:</b>               | 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>   |
| <b>Connecting Capacity Control Circuit:</b>                 | 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>   |
| <b>Wire Stripping Length:</b>                               | Auxiliary Circuit 10 mm<br>Control Circuit 10 mm<br>Main Circuit 10 mm  |
| <b>Degree of Protection:</b>                                | acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP20<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP20   |
| <b>Terminal Type:</b>                                       | Screw Terminals   |
| <b>Number of Main Contacts NO:</b>                          | 3   |

## Environmental

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|--|--|
| <b>Climatic Withstand:</b>                     | Category B according to IEC 60947-1 Annex Q          |
| <b>Maximum Operating Altitude Permissible:</b> | 3000 m   |
| <b>Resistance to Vibrations acc. to IEC</b>    | 5 ... 300 Hz 4 g closed position / 2 g open position |

**60068-2-6:****Resistance to Shock acc. to IEC 60068-2-27:**

Closed, Shock Direction: B1 25 g  
 Open, Shock Direction: B1 5 g  
 Shock Direction: A 30 g  
 Shock Direction: B2 15 g  
 Shock Direction: C1 25 g  
 Shock Direction: C2 25 g

**RoHS Status:**

Planned to follow EU Directive 2002/95/EC August 18, 2005 and amendment after 2008 Q1

**Ambient Air Temperature:**

Close to Contactor for Storage -60...+80 °C  
 Close to Contactor Fitted with Thermal O/L Relay -25 ... +60 °C  
 Close to Contactor without Thermal O/L Relay -40 ... +70 °C

**Technical UL/CSA****General Use Rating UL/CSA:**

(600 V AC) 30 A

**Horsepower Rating UL/CSA:**

(120 V AC) Single Phase 1-1/2 Hp  
 (240 V AC) Single Phase 3 Hp  
 (200 ... 208 V AC) Three Phase 5 Hp  
 (220 ... 240 V AC) Three Phase 5 Hp  
 (440 ... 480 V AC) Three Phase 10 Hp  
 (550 ... 600 V AC) Three Phase 15 Hp

**Tightening Torque UL/CSA:**

Auxiliary Circuit 11 in-lb  
 Control Circuit 11 in-lb  
 Main Circuit 13 in-lb

**Certificates and Declarations (Document Number)****Instructions and Manuals:**

1SBC101027M6801

**ABS Certificate:**

ABS\_15-GE1349500-PDA\_90682247

**CB Certificate:**

CB\_SE\_70855M1

**CCC Certificate:**

CCC\_2010010304445624

**Data Sheet, Technical Information:**

1SBC101408D0201

**Declaration of Conformity - CE:**

1SBD250000U1000

**DNV Certificate:**

DNV-GL\_E13871

**EAC Certificate:**

EAC\_RU C-FR ME77 B01010

**GL Certificate:**

DNV-GL\_E13871

**GOST Certificate:**

GOST\_POCCFR.ME77.B07175.pdf

**LR Certificate:**

LRS\_1300087E1

**RINA Certificate:**

RINA\_ELE084013XG

**RMRS Certificate:**

RMRS\_1400682124

**RoHS Information:**

1SBD251013E1000

**UL Certificate:**

UL\_20140305-E312527\_7\_1

**UL Listing Card:**

UL\_E312527

**Classifications****E-number:**

3211375

**ETIM 4:**

EC000066 - Magnet contactor, AC-switching

**ETIM 5:**

EC000066 - Magnet contactor, AC-switching

**ETIM 6:**

EC000066 - Power contactor, AC switching

**UNSPSC:**

39121529

**Object Classification Code:**

Q

