

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

## General Information

<b>Extended Product Type:</b>	AF16-22-00-13
<b>Product ID:</b>	1SBL177501R1300
<b>EAN:</b>	3471523116337
<b>Catalog Description:</b>	AF16-22-00-13 100-250V50/60HZ-DC Contactor
<b>Long Description:</b>	<p>AF16 4-pole contactors are used for controlling power circuits up to 690 V AC and 440 V DC. They are mainly used for controlling non-inductive or slightly inductive loads (i.e. resistance furnaces...). AF... contactors include an electronic coil interface accepting a wide control voltage <math>U_c \text{ min.} \dots U_c \text{ max.}</math> 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 4-pole contactors are of the block type design. - Main poles and auxiliary contact blocks: 2 N.O. + 2 N.C. main poles, 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.</p>

## Ordering

<b>Minimum Order Quantity:</b>	1 piece
<b>Customs Tariff Number:</b>	85364900

## Popular Downloads

<b>Data Sheet, Technical Information:</b>	1SBC101422D0201
<b>Instructions and Manuals:</b>	1SBC101027M6801

## Dimensions

<b>Product Net Width:</b>	45 mm
<b>Product Net Depth / Length:</b>	77 mm
<b>Product Net Height:</b>	86 mm
<b>Product Net Weight:</b>	0.270 kg

## Technical

<b>Number of Main Contacts NO:</b>	2
<b>Number of Main Contacts NC:</b>	2
<b>Number of Auxiliary Contacts NO:</b>	0

<b>Number of Auxiliary Contacts NC:</b>	0
<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>	Main Circuit 690 V
<b>Rated Frequency (f):</b>	Main Circuit 50 / 60 Hz
<b>Conventional Free-air Thermal Current (<math>I_{th}</math>):</b>	acc. to IEC 60947-4-1, Open Contactors $q = 40\text{ °C } 35\text{ A}$
<b>Rated Operational Current AC-1 (<math>I_e</math>):</b>	(690 V) 40 °C 30 A (690 V) 60 °C 30 A (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 (380 / 400 V) 60 °C 18 A (415 V) 60 °C 18 A (440 V) 60 °C 18 A (500 V) 60 °C 15 A (690 V) 60 °C 10.5 A
<b>Rated Operational Power AC-3 (<math>P_e</math>):</b>	(220 / 230 / 240 V) 4 kW (380 / 400 V) 7.5 kW (400 V) 7.5 kW (415 V) 9 kW (440 V) 9 kW (500 V) 9 kW (690 V) 9 kW
<b>Rated Short-time Withstand Current (<math>I_{cw}</math>):</b>	at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 150 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 35 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 60 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 300 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 80 A for 1 s -empty- A
<b>Maximum Breaking Capacity:</b>	$\cos\phi=0.45$ ( $\cos\phi=0.35$ for $I_e > 100\text{ A}$ ) at 440 V 250 A $\cos\phi=0.45$ ( $\cos\phi=0.35$ for $I_e > 100\text{ A}$ ) at 690 V 106 A
<b>Maximum Electrical Switching Frequency:</b>	AC-1 600 cycles per hour
<b>Rated Insulation Voltage (<math>U_i</math>):</b>	acc. to UL/CSA 600 V acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 690 V
<b>Rated Impulse Withstand Voltage (<math>U_{imp}</math>):</b>	6 kV
<b>Maximum Mechanical Switching Frequency:</b>	3600 cycles per hour
<b>Rated Control Circuit Voltage (<math>U_c</math>):</b>	50 Hz 100 ... 250 V 60 Hz 100 ... 250 V DC Operation 100 ... 250 V

<b>Operate Time:</b>	Between Coil De-energization and NC Contact Closing 13 ... 98 ms Between Coil De-energization and NO Contact Opening 11 ... 95 ms Between Coil Energization and NC Contact Opening 38 ... 90 ms 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> Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup> Flexible with Ferrule 1/2x 0.75 ... 6 mm <sup>2</sup> Rigid 1/2x 1 ... 6 mm <sup>2</sup>
<b>Connecting Capacity Control Circuit:</b>	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup> Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm <sup>2</sup> Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm <sup>2</sup> Rigid 1/2x 1 ... 2.5 mm <sup>2</sup>
<b>Wire Stripping Length:</b>	Control Circuit 10 mm Main Circuit 10 mm
<b>Degree of Protection:</b>	acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP20
<b>Terminal Type:</b>	Screw Terminals

## Environmental

<b>Ambient Air Temperature:</b>	Close to Contactor for Storage -60 ... +80 °C Near Contactor for Operation in Free Air -40 ... +70 °C
<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 60068-2-6:</b>	5 ... 300 Hz 4 g closed position / 2 g open position
<b>Resistance to Shock acc. to IEC 60068-2-27:</b>	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

## Technical UL/CSA

<b>General Use Rating UL/CSA:</b>	(600 V AC) 30 A
<b>Tightening Torque UL/CSA:</b>	Control Circuit 11 in·lb Main Circuit 13 in·lb

## Certificates and Declarations (Document Number)

<b>ABS Certificate:</b>	ABS_15-GE1349500-PDA_90682247
<b>CB Certificate:</b>	CB_SE-80869M1
<b>CCC Certificate:</b>	CCC_2010010304445624
<b>Declaration of Conformity - CE:</b>	1SBD250001U1000
<b>DNV Certificate:</b>	DNV-GL_TAE00001AF-1

<b>DNV GL Certificate:</b>	DNV-GL_TAE00001AF-1
<b>EAC Certificate:</b>	EAC_RU C-FR ME77 B01010
<b>Environmental Information:</b>	1SBD250147E1000
<b>GOST Certificate:</b>	GOST_POCCFR.ME77.B07175.pdf
<b>Instructions and Manuals:</b>	1SBC101027M6801
<b>KC Certificate:</b>	KC_HW02016-15008A
<b>LR Certificate:</b>	LRS_1300087E1
<b>RINA Certificate:</b>	RINA_ELE084013XG
<b>RMRS Certificate:</b>	RMRS_1400682124
<b>RoHS Information:</b>	1SBD251011E1000
<b>UL Certificate:</b>	UL_20120918-E319322-3-1
<b>UL Listing Card:</b>	UL_E319322

## Container Information

<b>Package Level 1 Units:</b>	1 piece
<b>Package Level 1 Width:</b>	87 mm
<b>Package Level 1 Depth / Length:</b>	79 mm
<b>Package Level 1 Height:</b>	47 mm
<b>Package Level 1 Gross Weight:</b>	0.27 kg
<b>Package Level 1 EAN:</b>	3471523116337
<b>Package Level 2 Units:</b>	54 piece
<b>Package Level 2 Width:</b>	250 mm
<b>Package Level 2 Depth / Length:</b>	300 mm
<b>Package Level 2 Height:</b>	315 mm
<b>Package Level 2 Gross Weight:</b>	14.58 kg
<b>Package Level 3 Units:</b>	1296 piece

## Classifications

<b>Object Classification Code:</b>	Q
<b>E-nummer:</b>	3211402
<b>ETIM 4:</b>	EC000066 - Magnet contactor, AC-switching
<b>ETIM 5:</b>	EC000066 - Magnet contactor, AC-switching
<b>ETIM 6:</b>	EC000066 - Power contactor, AC switching
<b>ETIM 7:</b>	EC000066 - Power contactor, AC switching
<b>UNSPSC:</b>	39121529

