

## General Information

<b>Extended Product Type:</b>	AF16-22-00-12
<b>Product ID:</b>	1SBL177501R1200
<b>EAN:</b>	3471523116320
<b>Catalog Description:</b>	AF16-22-00-12 48-130V50/60HZ-DC Contactor
<b>Long Description:</b>	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 $U_c$ 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 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.

## 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>	3471523116320

## Dimensions

<b>Product Net Depth:</b>	77 mm
<b>Product Net Height:</b>	86 mm
<b>Product Net Weight:</b>	0.270 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>	0.27 kg
<b>Package Level 1 EAN:</b>	3471523116320
<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>	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 $q = 40$ °C 35 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 (I<sub>cw</sub>):</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
<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 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
<b>Rated Insulation Voltage (U<sub>i</sub>):</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 (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 48 ... 130 V 60 Hz 48 ... 130 V DC Operation 48 ... 130 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
<b>Number of Main Contacts NO:</b>	2

## Environmental

<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
<b>RoHS Status:</b>	Planned to follow EU Directive 2002/95/EC August 18, 2005 and amendment after 2008 Q1
<b>Ambient Air Temperature:</b>	Close to Contactor for Storage -60...+80 °C Near Contactor for Operation in Free Air -40 ... +70 °C

## 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>Instructions and Manuals:</b>	1SBC101027M6801
<b>ABS Certificate:</b>	ABS_15-GE1349500-PDA_90682247
<b>CB Certificate:</b>	CB_SE_70857M1
<b>CCC Certificate:</b>	CCC_2010010304445624
<b>Data Sheet, Technical Information:</b>	1SBC101422D0201
<b>Declaration of Conformity - CE:</b>	1SBD250001U1000
<b>DNV Certificate:</b>	DNV-GL_E13871
<b>EAC Certificate:</b>	EAC_RU C-FR ME77 B01010

<b>GL Certificate:</b>	DNV-GL_E13871
<b>GOST Certificate:</b>	GOST_POCCFR.ME77.B07175.pdf
<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

### Classifications

<b>E-nummer:</b>	3211401
<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>UNSPSC:</b>	39121529
<b>Object Classification Code:</b>	Q

