

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

## General Information

<b>Extended Product Type:</b>	AF09-30-01-14
<b>Product ID:</b>	1SBL137001R1401
<b>EAN:</b>	3471523110144
<b>Catalog Description:</b>	AF09-30-01-14 250-500V50/60HZ-DC Contactor
<b>Long Description:</b>	<p>AF09 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 <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 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.</p>

## Ordering

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

## Popular Downloads

<b>Data Sheet, Technical Information:</b>	1SBC101402D0201
<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>	0.310 kg

## Technical

<b>Number of Main Contacts NO:</b>	3
<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 Main Circuit 690 V
<b>Rated Frequency (f):</b>	Auxiliary Circuit 50 / 60 Hz Main Circuit 50 / 60 Hz
<b>Conventional Free-air Thermal Current (<math>I_{th}</math>):</b>	acc. to IEC 60947-4-1, Open Contactors $q = 40\text{ °C } 35\text{ A}$ acc. to IEC 60947-5-1, $q = 40\text{ °C } 16\text{ A}$
<b>Rated Operational Current AC-1 (<math>I_e</math>):</b>	(690 V) $40\text{ °C } 25\text{ A}$ (690 V) $60\text{ °C } 25\text{ A}$ (690 V) $70\text{ °C } 22\text{ A}$
<b>Rated Operational Current AC-3 (<math>I_e</math>):</b>	(220 / 230 / 240 V) $60\text{ °C } 9\text{ A}$ (380 / 400 V) $60\text{ °C } 9\text{ A}$ (415 V) $60\text{ °C } 9\text{ A}$ (440 V) $60\text{ °C } 9\text{ A}$ (500 V) $60\text{ °C } 9.5\text{ A}$ (690 V) $60\text{ °C } 7\text{ A}$
<b>Rated Operational Power AC-3 (<math>P_e</math>):</b>	(220 / 230 / 240 V) 2.2 kW (380 / 400 V) 4 kW (400 V) 4 kW (415 V) 4 kW (440 V) 4 kW (500 V) 5.5 kW (690 V) 5.5 kW
<b>Rated Operational Current AC-15 (<math>I_e</math>):</b>	(220 / 240 V) 4 A (24 / 127 V) 6 A (400 / 440 V) 3 A (500 V) 2 A (690 V) 2 A
<b>Rated Short-time Withstand Current (<math>I_{cw}</math>):</b>	at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 10 s 150 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 15 min 35 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 1 min 60 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 1 s 300 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 30 s 80 A for 0.1 s 140 A for 1 s 100 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 AC-15 1200 cycles per hour AC-2 / AC-4 300 cycles per hour AC-3 1200 cycles per hour DC-13 900 cycles per hour

<b>Rated Operational Current DC-13 (I<sub>e</sub>):</b>	(110 V) 0.55 A / 60 A (125 V) 0.55 A / 69 A (220 V) 0.27 A / 60 A (24 V) 6 A / 144 A (250 V) 0.27 A / 68 A (400 V) 0.15 A / 60 A (48 V) 2.8 A / 134 A (500 V) 0.13 A / 65 A (600 V) 0.1 A / 60 A (72 V) 1 A / 72 A
<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 250 ... 500 V 60 Hz 250 ... 500 V DC Operation 250 ... 500 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 Auxiliary 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>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>	Auxiliary Circuit 10 mm Control Circuit 10 mm Main Circuit 10 mm
<b>Degree of Protection:</b>	acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP20 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 Close to Contactor Fitted with Thermal O/L Relay -25 ... +60 °C Close to Contactor without Thermal O/L Relay -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) 25 A
<b>Horsepower Rating UL/CSA:</b>	(120 V AC) Single Phase 3/4 Hp (240 V AC) Single Phase 1-1/2 Hp (200 ... 208 V AC) Three Phase 2 Hp (220 ... 240 V AC) Three Phase 2 Hp (440 ... 480 V AC) Three Phase 5 Hp (550 ... 600 V AC) Three Phase 7-1/2 Hp
<b>Tightening Torque UL/CSA:</b>	Auxiliary Circuit 11 in·lb 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>BV Certificate:</b>	BV_2634H24898B0
<b>CB Certificate:</b>	CB_SE-80871M3
<b>CCC Certificate:</b>	CCC_2010010304445624
<b>cUL Certificate:</b>	UL_20180227_E312527_7_1
<b>Declaration of Conformity - CE:</b>	1SBD250000U1000
<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_HW02016-15004A
<b>LR Certificate:</b>	LRS_1300087E1

<b>RINA Certificate:</b>	RINA_ELE084013XG
<b>RMRS Certificate:</b>	RMRS_1400682124
<b>RoHS Information:</b>	1SBD251013E1000
<b>UL Certificate:</b>	UL_20140305-E312527_7_1
<b>UL Listing Card:</b>	E312527

## 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>	0.31 kg
<b>Package Level 1 EAN:</b>	3471523110144
<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>	16.74 kg
<b>Package Level 3 Units:</b>	1296 piece

## Classifications

<b>Object Classification Code:</b>	Q
<b>E-nummer:</b>	3210012
<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

