



PRODUCT-DETAILS

# AF09-22-00-13

## AF09-22-00-13 100-250V50/60HZ-DC Contactor



General Information	
Extended Product Type	AF09-22-00-13
Product ID	1SBL137501R1300
EAN	3471523116238
Catalog Description	AF09-22-00-13 100-250V50/60HZ-DC Contactor
Long Description	The AF09-22-00-13 is a 4 pole - 690 V IEC or 600 UL contactor with screw terminals, controlling motors up to 4 kW / 400 V AC (AC-3) and switching power circuits up to 25 A (AC-1) or 25 A UL general use. Thanks to the AF technology, the contactor has a wide control voltage range (100-250 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	
Data Sheet, Technical Information	1SBC100214C0202
Instructions and Manuals	1SBC101027M6801
CAD Dimensional Drawing	2CDC001079B0201

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	2
Number of Main Contacts NC	2
Number of Auxiliary Contacts NO	0
Number of Auxiliary Contacts NC	0
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, UL 60947-1, UL 60947-4-1, CAN/CSA C22.2 No.60947-1, CAN/CSA C22.2 No.60947-4-1
Rated Operational Voltage	Main Circuit 690 V
Rated Frequency (f)	Control Circuit 50 / 60 Hz Main Circuit 50 / 60 Hz
Conventional Free-air Thermal Current (I <sub>th</sub> )	acc. to IEC 60947-4-1, Open Contactors Θ = 40 °C 35 A
Rated Operational Current AC-1 (I <sub>e</sub> )	(690 V) 40 °C 25 A (690 V) 60 °C 25 A (690 V) 70 °C 22 A
Rated Operational Current AC-3 (I <sub>e</sub> )	(415 V) 60 °C 9 A (440 V) 60 °C 9 A (500 V) 60 °C 9.5 A (690 V) 60 °C 7 A (380 / 400 V) 60 °C 9 A (220 / 230 / 240 V) 60 °C 9 A
Rated Operational Power AC-3 (P <sub>e</sub> )	(400 V) 4 kW (415 V) 4 kW (440 V) 4 kW (500 V) 5.5 kW (690 V) 5.5 kW (380 / 400 V) 4 kW (220 / 230 / 240 V) 2.2 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 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
Maximum Breaking Capacity	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
Maximum Electrical Switching Frequency	(AC-1) 600 cycles per hour
Rated Insulation Voltage	acc. to IEC 60947-4-1 690 V

(U <sub>i</sub> )	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 100 ... 250 V 60 Hz 100 ... 250 V DC Operation 100 ... 250 V
Operate Time	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
Mounting on DIN Rail	TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715 TH35-7.5 (35 x 7.5 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> 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> Rigid Solid 1/2x 1 ... 4 mm <sup>2</sup> Rigid Stranded 1/2x 1 ... 6 mm <sup>2</sup>
Connecting Capacity Auxiliary Circuit	Rigid Solid 1/2x 1 ... 2.5 mm <sup>2</sup> Rigid Stranded 1/2x 1 ... 2.5 mm <sup>2</sup>
Connecting Capacity Control Circuit	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 Solid 1/2x 1 ... 2.5 mm <sup>2</sup> Rigid Stranded 1/2x 1 ... 2.5 mm <sup>2</sup>
Wire Stripping Length	Control Circuit 10 mm Main Circuit 10 mm
Degree of Protection	acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP20
Terminal Type	Screw Terminals

**Technical UL/CSA**

Maximum Operating Voltage UL/CSA	Main Circuit 600 V
General Use Rating UL/CSA	(600 V AC) 25 A
Connecting Capacity Main Circuit UL/CSA	Rigid Solid 1/2x 16-10 AWG Rigid Stranded 1/2x 16-10 AWG
Connecting Capacity Auxiliary Circuit UL/CSA	Rigid Solid 1/2x 18-14 AWG Rigid Stranded 1/2x 18-14 AWG
Connecting Capacity Control Circuit UL/CSA	Rigid Solid 1/2x 18-14 AWG Rigid Stranded 1/2x 18-14 AWG
Tightening Torque UL/CSA	Control Circuit 11 in-lb Main Circuit 13 in-lb

**Environmental**

Ambient Air Temperature	Close to Contactor for Storage -60 ... +80 °C 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 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
Resistance to Vibrations	4g Closed Position & 2g Open position 5 ... 300 Hz

Material Compliance

Conflict Minerals Reporting Template (CMRT)	9AKK108467A5658
REACH Declaration	2CMT2021-006202
RoHS Information	2CMT2021-006277
RoHS Status	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019
SCIP	f842df04-657f-4c58-9f9f-1205d881cc64 China (CN)
Simplified SCIP	7a50f1ae-36ac-4865-92b8-4b55709573df Czech Republic (CZ) 1dca78aa-7884-4494-8b5b-f4404a3ab937 Spain (ES) c9be017e-fc61-478e-a492-bcc9c06397cc Croatia (HR) d37e94d5-3609-419b-87b5-318cdb051e6e Poland (PL) 8ccf9eb8-e975-4b63-bc07-41218530e8c1 Germany (DE) c10a5b6b-d352-488a-ad08-b39b422618de Belgium (BE) 32a7c0aa-a4c3-4c6b-bf71-034866f4606b Denmark (DK) ee096501-5985-4b71-8905-26c428d2b4d0 Germany (DE) 43498125-99ee-48de-b543-99c5391b0118 Greece (GR) eb6f8d9c-9e62-4581-b334-681dd9313a55 Finland (FI) bbe9eaf4-f502-4334-bea0-64c7a6541967 Belgium (BE) 29f5e32d-90d1-44d6-ada0-01703a563387 Bulgaria (BG) 6d82ea9b-cfc7-46ee-90a2-6ae06dc393da Germany (DE) d0888840-ee2c-4ff2-9357-46e779868ec9 Portugal (PT) c28fd335-b6ae-48b2-8f92-2ecb421ef843 Norway (NO) 628d5705-c89e-4b61-9121-70eeaea8663a Netherlands (NL) b16cce0f-bb3f-4549-903f-0ad66f8d3dc7 Hungary (HU) d8cc386d-9ed1-48b6-91ec-3b02983d21ec Hungary (HU) 245a655f-e616-4787-913d-8df76d45c49e Poland (PL) 3e05f9ef-e350-48df-b6ea-521e1f083fea Estonia (EE) fe8cae12-85ae-4c3e-95b5-4472db6a1aef Poland (PL) 42b30871-5b4b-4337-adbe-5884a562127f France (FR) fab5c7be-e64b-4fe4-9ec4-fc3e31ab2ad5 Sweden (SE) 2586979e-ae23-44d7-9eaa-ad240951212f Germany (DE) 076a4d02-400e-4858-843e-e0e45bc41fa2 France (FR) 1f2b7dbb-ed99-4372-9456-3d1e08ca8009 Sweden (SE) ac557e6f-4684-4366-bc8b-89e6743b6c85 Germany (DE)
Toxic Substances Control Act - TSCA	2CMT2023-006525
WEEE B2C / B2B	Business To Business
WEEE Category	5. Small Equipment (No External Dimension More Than 50 cm)

ABB EcoSolutions

Environmental Product Declaration - EPD	1SBD250584E3000 2TFP200035A1001
End of Life Instructions	1SBC101080M6801

Certificates and Declarations

ABS Certificate	ABS_20-2060694-PDA
CB Certificate	CB_SE-113345
CCC Certificate	CCC_2010010304445624
CQC Certificate	CQC2010010304445624 CQC2020010304298240
Declaration of Conformity - CCC	2020980304001253 2020980304001082
Declaration of	1SBD250001U1000

Conformity - CE	
Declaration of Conformity - UKCA	1SBD250032U1000
DNV Certificate	DNV_TAE00001AF-4
GOST Certificate	GOST_POCCFR.ME77.B07175.pdf
KC Certificate	KC_HW02016-15007C
LR Certificate	LRS_LR23403517TA-02
RINA Certificate	RINA_ELE084013XG
RMRS Certificate	RMRS_1802705280
UL Certificate	UL-US-L319322-13-72119002-5 UL-CA-L319322-43-72119002-6
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	3471523116238
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 7	EC000066 - Power contactor, AC switching
ETIM 8	EC000066 - Power contactor, AC switching
ETIM 9	EC000066 - Power contactor, AC switching
eClass	V11.0 : 27371003
UNSPSC	39121529
IDEA Granular Category Code (IGCC)	4758 >> lec Contactors
E-Number (Finland)	3706344
E-Number (Sweden)	3211394

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## Categories

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Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF09

