



PRODUCT-DETAILS

AF16-22-00-13

AF16-22-00-13 100-250V50/60HZ-DC Contactor



General Information	
Extended Product Type	AF16-22-00-13
Product ID	1SBL177501R1300
EAN	3471523116337
Catalog Description	AF16-22-00-13 100-250V50/60HZ-DC Contactor
Long Description	The AF16-22-00-13 is a 4 pole - 690 V IEC or 600 UL contactor with screw terminals, controlling motors up to 7.5 kW / 400 V AC (AC-3) and switching power circuits up to 30 A (AC-1) or 30 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

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_{th})	acc. to IEC 60947-4-1, Open Contactors $\Theta = 40^\circ\text{C}$ 35 A
Rated Operational Current AC-1 (I_e)	(690 V) 40 °C 30 A (690 V) 60 °C 30 A (690 V) 70 °C 26 A
Rated Operational Current AC-3 (I_e)	(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 (380 / 400 V) 60 °C 18 A (220 / 230 / 240 V) 60 °C 18 A
Rated Operational Power AC-3 (P_e)	(400 V) 7.5 kW (415 V) 9 kW (440 V) 9 kW (500 V) 9 kW (690 V) 9 kW (380 / 400 V) 7.5 kW (220 / 230 / 240 V) 4 kW
Rated Short-time Withstand Current Low Voltage (I_{cw})	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 $I_e > 100\text{ A}$) at 440 V 250 A cos phi=0.45 (cos phi=0.35 for $I_e > 100\text{ A}$) at 690 V 106 A
Maximum Electrical Switching Frequency	(AC-1) 600 cycles per hour
Rated Insulation Voltage (U_i)	acc. to IEC 60947-4-1 690 V acc. to UL/CSA 600 V
Rated Impulse	6 kV

Withstand Voltage (U_{imp})	
Maximum Mechanical Switching Frequency	3600 cycles per hour
Rated Control Circuit Voltage (U_c)	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 ² Flexible with Insulated Ferrule 1x 0.75 ... 4 mm ² Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm ² Rigid Solid 1/2x 1 ... 4 mm ² Rigid Stranded 1/2x 1 ... 6 mm ²
Connecting Capacity Auxiliary Circuit	Rigid Solid 1/2x 1 ... 2.5 mm ² Rigid Stranded 1/2x 1 ... 2.5 mm ²
Connecting Capacity Control Circuit	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm ² Rigid Solid 1/2x 1 ... 2.5 mm ² Rigid Stranded 1/2x 1 ... 2.5 mm ²
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) 30 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

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	9d8a072b-a8f5-4676-b483-01d7b0790faf China (CN)
Simplified SCIP	b78cfaf1-eadb-4bb4-97dc-2a1cdf017461 Hungary (HU) d03ecc2e-d359-4279-a453-0b53c3f346f3 Estonia (EE) 4c4da815-9e57-4338-b4c2-c7dd6d469ae4 Bulgaria (BG) 12215a01-d5d4-487d-ae5c-49a631950c59 Finland (FI) 87c60133-0842-409b-8367-9b128052e0c3 Croatia (HR) f604823e-18bf-4922-8d45-09f7ae770cf3 Czech Republic (CZ) 5dfe0032-f993-48b1-8ef0-af08f8bea918 Belgium (BE) f9d37d51-2e64-4d5a-a152-fe4919c49331 France (FR) d1b305d9-6f2a-4e41-ade5-46c6357ac787 Sweden (SE) 1b6a6cb1-5656-446b-a4c9-f09ef3b838ca Germany (DE) f9fd8f69-6fc5-4874-aba0-ae59a8eeecbbb France (FR) 50cef61b-b111-48ff-8211-fde63d5ff29e Portugal (PT) 54da4f40-0f88-4def-a444-ff7927ba1f07 Germany (DE) f4cc6c46-9b79-4964-a25a-b54e14ade8a6 Denmark (DK) 95de85cc-dc9e-4048-8fc5-484fa27e66c1 Sweden (SE) 0b1aada1-a86d-4aa8-a299-216c2b16c542 Germany (DE) 82206802-2db8-4129-9320-194156a7e7aa Germany (DE) 31b71a14-e935-43b5-a7fb-b4025b2bd8f9 Poland (PL) 5d487ee1-780e-4c73-9d1e-cd9046b9d83c Greece (GR) 0be059b6-8df7-49d2-aa16-b7a2201a1640 Poland (PL) bba2756c-ccd3-4d1d-b838-e797a4a7c48d Germany (DE) 4a077ff3-f7a0-413b-918b-e31b6c07b1e0 Poland (PL) 4e4b8581-eb7f-41c4-a428-e52606345475 Netherlands (NL) 59401d2b-63eb-484c-a62a-1c06a8b5d0ad Norway (NO) ca90f5a0-0ce5-4b0d-9678-e9fb8858a272 Hungary (HU) 62e546af-91bc-4db0-a50b-785fd57b2bb6 Belgium (BE) 62faea84-9cb9-46e6-be9a-92e0980d1148 Spain (ES)
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
Sustainable Material Content	Recycled Metal - 28 %
Sustainable Material Content in Packaging	Recycled Cardboard - 86 %
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 Conformity - CE	1SBD250001U1000
Declaration of Conformity - UKCA	1SBD250032U1000
DNV Certificate	DNV_TAE00001AF-4
GOST Certificate	GOST_POCCFR.ME77.B07175.pdf
KC Certificate	KC_HW02016-15008C
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	3471523116337
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 >> Iec Contactors
E-Number (Finland)	3706351
E-Number (Sweden)	3211402

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF16

