PRODUCT-DETAILS

AF38ZB-30-00K-23

AF38ZB-30-00K-23 100-250V50/60HZ-DC Contactor

General Information

Extended Product Type	AF38ZB-30-00K-23
Product ID	1SBL296063R2300
EAN	3471523010444
Catalog Description	AF38ZB-30-00K-23 100-250V50/60HZ-DC Contactor
Long Description	The AF38ZB-30-00K-23 is a 3 pole - 690 V IEC or 600 UL contactor with Push-in spring terminals, controlling motors up to 18.5 kW / 400 V AC (AC-3) or 25 hp / 480 V UL and switching power circuits up to 45 A (AC-1) or 50 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	1SBC100220C0201
Instructions and Manuals	1SBC101054M6801
Instructions and Manuals (Part 2)	1SAC200017M0002
CAD Dimensional Drawing	2CDC001079B0201

Dimensions

Product Net Width	45 mm
Product Net Depth / Length	86 mm
Product Net Height	92.3 mm
Product Net Weight	0.33 kg

Technical

Number of Main Contacts NO	3
Number of Main Contacts NC	0
Number of Auxiliary Contacts NO	0
Number of Auxiliary Contacts NC	0
Number of Poles	3P
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, UL 60947-4-1, CSA C22.2 No. 60947-4-1, IEC 60077-1 (applicable parts), IEC 60077-2 (applicable parts), EN 50155 (applicable parts), TR CU 001/2011, IEC 61373, For compliance confirmation on applicable parts based on your application and combination, please consult your ABB sales representatives.
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 Θ = 40 °C 50 A
Rated Operational Current AC-1 (I_e)	(690 V) 40 °C 50 A (690 V) 60 °C 42 A (690 V) 70 °C 37 A
Rated Operational Current AC-3 (I_e)	(415 V) 60 °C 38 A (440 V) 60 °C 38 A (500 V) 60 °C 33 A (690 V) 60 °C 24 A (380 / 400 V) 60 °C 38 A (220 / 230 / 240 V) 60 °C 40 A
Rated Operational Current AC-3e (I_e)	(415 V) 60 °C 38 A (440 V) 60 °C 38 A (500 V) 60 °C 33 A (690 V) 60 °C 24 A (380 / 400 V) 60 °C 38 A (220 / 230 / 240 V) 60 °C 40 A
Rated Operational Current DC-1 (I_e)	(110 V) 2 Poles in Series, 40 °C 50 A (110 V) 2 Poles in Series, 60 °C 42 A (110 V) 2 Poles in Series, 70 °C 37 A (110 V) 3 Poles in Series, 40 °C 50 A (110 V) 3 Poles in Series, 60 °C 42 A (110 V) 3 Poles in Series, 70 °C 37 A (220 V) 3 Poles in Series, 40 °C 50 A (220 V) 3 Poles in Series, 60 °C 42 A (220 V) 3 Poles in Series, 70 °C 37 A (72 V) 1-Pole, 40 °C 50 A (72 V) 1-Pole, 60 °C 42 A (72 V) 1-Pole, 70 °C 37 A (72 V) 2 Poles in Series, 40 °C 50 A (72 V) 2 Poles in Series, 60 °C 42 A (72 V) 2 Poles in Series, 70 °C 37 A (72 V) 3 Poles in Series, 40 °C 50 A

	(72 V) 3 Poles in Series, 60 °C 42 A (72 V) 3 Poles in Series, 70 °C 37 A
Rated Operational Current DC-3 (I_e)	(110 V) 2 Poles in Series, 40 °C 50 A (110 V) 2 Poles in Series, 60 °C 42 A (110 V) 2 Poles in Series, 70 °C 37 A (110 V) 3 Poles in Series, 40 °C 50 A (110 V) 3 Poles in Series, 60 °C 42 A (110 V) 3 Poles in Series, 70 °C 37 A (220 V) 3 Poles in Series, 40 °C 50 A (220 V) 3 Poles in Series, 60 °C 42 A (220 V) 3 Poles in Series, 70 °C 37 A (72 V) 1-Pole, 40 °C 50 A (72 V) 1-Pole, 60 °C 42 A (72 V) 1-Pole, 70 °C 37 A (72 V) 2 Poles in Series, 40 °C 50 A (72 V) 2 Poles in Series, 60 °C 42 A (72 V) 2 Poles in Series, 70 °C 37 A (72 V) 3 Poles in Series, 40 °C 50 A (72 V) 3 Poles in Series, 60 °C 42 A (72 V) 3 Poles in Series, 70 °C 37 A
Rated Operational Current DC-5 (I_e)	(110 V) 2 Poles in Series, 40 °C 50 A (110 V) 2 Poles in Series, 60 °C 42 A (110 V) 2 Poles in Series, 70 °C 37 A (110 V) 3 Poles in Series, 40 °C 50 A (110 V) 3 Poles in Series, 60 °C 42 A (110 V) 3 Poles in Series, 70 °C 37 A (220 V) 3 Poles in Series, 40 °C 25 A (220 V) 3 Poles in Series, 60 °C 25 A (220 V) 3 Poles in Series, 70 °C 25 A (72 V) 1-Pole, 40 °C 25 A (72 V) 1-Pole, 60 °C 25 A (72 V) 1-Pole, 70 °C 25 A (72 V) 2 Poles in Series, 40 °C 50 A (72 V) 2 Poles in Series, 60 °C 42 A (72 V) 2 Poles in Series, 70 °C 37 A (72 V) 3 Poles in Series, 40 °C 50 A (72 V) 3 Poles in Series, 60 °C 42 A (72 V) 3 Poles in Series, 70 °C 37 A
Rated Operational Power AC-3 (P_e)	(415 V) 18.5 kW (440 V) 22 kW (500 V) 22 kW (690 V) 22 kW (380 / 400 V) 18.5 kW (220 / 230 / 240 V) 11 kW
Rated Operational Power AC-3e (P_e)	(415 V) 18.5 kW (440 V) 22 kW (500 V) 22 kW (690 V) 22 kW (380 / 400 V) 18.5 kW (220 / 230 / 240 V) 11 kW
Rated Short-time Withstand Current Low Voltage (I_{cw})	at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 350 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 50 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 150 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 700 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 225 A
Maximum Breaking Capacity	cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 440 V 500 A cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 690 V 200 A
Rated Insulation Voltage (U_i)	acc. to IEC 60947-4-1 690 V acc. to UL/CSA 600 V
Rated Impulse Withstand Voltage (U_{imp})	6 kV
Maximum Electrical Switching Frequency	(AC-1) 600 cycles per hour (AC-15) 0 cycles per hour (AC-2 / AC-4) 150 cycles per hour (AC-3) 1200 cycles per hour (DC-13) 0 cycles per hour
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
Power Loss	at Rated Operating Conditions AC-1 per Pole 2.44 W at Rated Operating Conditions AC-3 per Pole 1.41 W
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 1 ... 6 mm² Flexible with Insulated Ferrule 1/2x 1 ... 6 mm² Flexible 1/2x 1 ... 6 mm² Rigid Solid 1/2x 1 ... 2.5 mm² Rigid Stranded 1/2x 4 ... 10 mm²
Connecting Capacity Control Circuit	Flexible with Ferrule 1/2x 0.5 ... 2.5 mm² Flexible with Insulated Ferrule 1/2x 0.5 ... 1.5 mm² Flexible 1/2x 0.5 ... 2.5 mm² Rigid 1/2x 1 ... 2.5 mm² Rigid Solid 1/2x 1 ... 2.5 mm²
Wire Stripping Length	Auxiliary Circuit 0 mm Control Circuit 10 mm Main Circuit 14 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	Push-in Spring Terminals
Product Name	Block Contactor

Technical UL/CSA

Maximum Operating Voltage UL/CSA	Main Circuit 600 V
General Use Rating UL/CSA	(600 V AC) 45 A
Horsepower Rating UL/CSA	(120 V AC) Single Phase 2 hp (200 ... 208 V AC) Three Phase 10 hp (220 ... 240 V AC) Three Phase 10 hp (240 V AC) Single Phase 5 hp (440 ... 480 V AC) Three Phase 25 hp (550 ... 600 V AC) Three Phase 30 hp
Connecting Capacity Main Circuit UL/CSA	Rigid Solid 1/2x 18-14 AWG Rigid Stranded 1/2x 18-8 AWG
Connecting Capacity Control Circuit UL/CSA	Rigid Solid 1/2x 18-14 AWG
Full Load Amps Motor Use	(120 V AC) Single Phase 24 A (200 ... 208 V AC) Three Phase 32.2 A (220 ... 240 V AC) Three Phase 28 A (240 V AC) Single Phase 28 A (440 ... 480 V AC) Three Phase 34 A (550 ... 600 V AC) Three Phase 32 A

Environmental

Ambient Air Temperature	Close to Contactor without Thermal O/L Relay -40 ... 70 °C Close to Contactor for Storage -60 ... +80 °C
Climatic Withstand	Category B according to IEC 60947-1 Annex Q
Maximum Operating Altitude Permissible	Without Derating 3000 m
Resistance to Vibrations	4g Closed Position & 2g Open position 5 ... 300 Hz
Shock and Vibration Withstand acc. to IEC 61373	Category 1, Class B
Pollution Degree	3

Material Compliance

Conflict Minerals Reporting Template (CMRT)	9AKK108467A5658
REACH Declaration	2CMT2021-006202

RoHS Declaration	2CMT2021-006277
RoHS Information	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019
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

End Of Life Disassembling Instructions	1SBC101080M6801
Environmental Product Declaration - EPD	1SBD250584E4000
Sustainable Material Content in Packaging (wt. %)	Recycled Cardboard - 86 %
Sustainable Material Content in Product (wt. %)	Recycled Metal - 28 %

Certificates and Declarations

CB Certificate	CB_SE-116364
CCC Certificate	CCC_2024010304656668
CQC Certificate	CQC2010010304445623
Declaration of Conformity - CCC	2020980304001254
Declaration of Conformity - CE	1SBD250002U1000
Declaration of Conformity - UKCA	1SBD250033U1000
UL Certificate	UL-US-2150887-5 UL-CA-2142658-5

Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	93 mm
Package Level 1 Depth / Length	86 mm
Package Level 1 Height	45 mm
Package Level 1 Gross Weight	0.36 kg
Package Level 1 EAN	3471523010444

External Classifications and Standards

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

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF38