



PRODUCT-DETAILS

AF12ZB-30-10RT-21
AF12ZB-30-10RT-21 24-60V50/60HZ 20-60VDC Contactor



General Information	
Extended Product Type	AF12ZB-30-10RT-21
Product ID	1SBL156060R2110
EAN	3471523127913
Catalog Description	AF12ZB-30-10RT-21 24-60V50/60HZ 20-60VDC Contactor
Long Description	The AF12ZB-30-10RT-21 is a 3 pole - 690 V IEC or 600 UL contactor with 1 built-in auxiliary contact and Ring-Tongue Terminals, controlling motors up to 5.5 kW / 400 V AC (AC-3) or 7-1/2 hp / 480 V UL and switching power circuits up to 28 A (AC-1) or 28 A UL general use. Thanks to the AF technology, the contactor has a wide control voltage range (24-60 V 50/60 Hz and 20-60 V 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	1SBC101035M6801
Instructions and Manuals (Part 2)	1SAC200017M0002
CAD Dimensional Drawing	2CDC001079B0201

Dimensions

Product Net Width	45 mm
Product Net Depth / Length	77 mm
Product Net Height	86 mm
Product Net Weight	0.32 kg

Technical

Number of Main Contacts NO	3
Number of Main Contacts NC	0
Number of Auxiliary Contacts NO	1
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	Auxiliary Circuit 690 V Main Circuit 690 V
Rated Frequency (f)	Auxiliary Circuit 50 / 60 Hz 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 acc. to IEC 60947-5-1, $\Theta = 40^\circ\text{C}$ 16 A
Rated Operational Current AC-1 (I_e)	(690 V) 40°C 28 A (690 V) 60°C 28 A (690 V) 70°C 24 A
Rated Operational Current AC-3 (I_e)	(415 V) 60°C 12 A (440 V) 60°C 12 A (500 V) 60°C 12.5 A (690 V) 60°C 9 A (380 / 400 V) 60°C 12 A (220 / 230 / 240 V) 60°C 12 A
Rated Operational Current AC-3e (I_e)	(415 V) 60°C 12 A (440 V) 60°C 12 A (500 V) 60°C 12.5 A (690 V) 60°C 9 A (380 / 400 V) 60°C 12 A (220 / 230 / 240 V) 60°C 12 A
Rated Operational Current AC-15 (I_e)	(500 V) 2 A (690 V) 2 A (24 / 127 V) 6 A (220 / 240 V) 4 A

	(400 / 440 V) 3 A
Rated Operational Current DC-1 (I_e)	(110 V) 1-Pole, 40 °C 15 A (110 V) 1-Pole, 60 °C 15 A (110 V) 1-Pole, 70 °C 15 A (110 V) 2 Poles in Series, 40 °C 27 A (110 V) 2 Poles in Series, 60 °C 27 A (110 V) 2 Poles in Series, 70 °C 24 A (110 V) 3 Poles in Series, 40 °C 27 A (110 V) 3 Poles in Series, 60 °C 27 A (110 V) 3 Poles in Series, 70 °C 24 A (220 V) 2 Poles in Series, 40 °C 15 A (220 V) 2 Poles in Series, 60 °C 15 A (220 V) 2 Poles in Series, 70 °C 15 A (220 V) 3 Poles in Series, 40 °C 27 A (220 V) 3 Poles in Series, 60 °C 27 A (220 V) 3 Poles in Series, 70 °C 24 A (72 V) 1-Pole, 40 °C 27 A (72 V) 1-Pole, 60 °C 27 A (72 V) 1-Pole, 70 °C 24 A (72 V) 2 Poles in Series, 40 °C 27 A (72 V) 2 Poles in Series, 60 °C 27 A (72 V) 2 Poles in Series, 70 °C 24 A (72 V) 3 Poles in Series, 40 °C 27 A (72 V) 3 Poles in Series, 60 °C 27 A (72 V) 3 Poles in Series, 70 °C 24 A
Rated Operational Current DC-3 (I_e)	(110 V) 1-Pole, 40 °C 7 A (110 V) 1-Pole, 60 °C 7 A (110 V) 1-Pole, 70 °C 7 A (110 V) 2 Poles in Series, 40 °C 27 A (110 V) 2 Poles in Series, 60 °C 27 A (110 V) 2 Poles in Series, 70 °C 24 A (110 V) 3 Poles in Series, 40 °C 27 A (110 V) 3 Poles in Series, 60 °C 27 A (110 V) 3 Poles in Series, 70 °C 24 A (220 V) 2 Poles in Series, 40 °C 7 A (220 V) 2 Poles in Series, 60 °C 7 A (220 V) 2 Poles in Series, 70 °C 7 A (220 V) 3 Poles in Series, 40 °C 27 A (220 V) 3 Poles in Series, 60 °C 27 A (220 V) 3 Poles in Series, 70 °C 24 A (72 V) 1-Pole, 40 °C 27 A (72 V) 1-Pole, 60 °C 27 A (72 V) 1-Pole, 70 °C 24 A (72 V) 2 Poles in Series, 40 °C 27 A (72 V) 2 Poles in Series, 60 °C 27 A (72 V) 2 Poles in Series, 70 °C 24 A (72 V) 3 Poles in Series, 40 °C 27 A (72 V) 3 Poles in Series, 60 °C 27 A (72 V) 3 Poles in Series, 70 °C 24 A
Rated Operational Current DC-5 (I_e)	(110 V) 1-Pole, 40 °C 4 A (110 V) 1-Pole, 60 °C 4 A (110 V) 1-Pole, 70 °C 4 A (110 V) 2 Poles in Series, 40 °C 15 A (110 V) 2 Poles in Series, 60 °C 15 A (110 V) 2 Poles in Series, 70 °C 15 A (110 V) 3 Poles in Series, 40 °C 27 A (110 V) 3 Poles in Series, 60 °C 27 A (110 V) 3 Poles in Series, 70 °C 24 A (220 V) 2 Poles in Series, 40 °C 4 A (220 V) 2 Poles in Series, 60 °C 4 A (220 V) 2 Poles in Series, 70 °C 4 A (220 V) 3 Poles in Series, 40 °C 12 A (220 V) 3 Poles in Series, 60 °C 12 A (220 V) 3 Poles in Series, 70 °C 12 A (72 V) 1-Pole, 40 °C 12 A (72 V) 1-Pole, 60 °C 12 A (72 V) 1-Pole, 70 °C 12 A (72 V) 2 Poles in Series, 40 °C 27 A (72 V) 2 Poles in Series, 60 °C 27 A (72 V) 2 Poles in Series, 70 °C 24 A (72 V) 3 Poles in Series, 40 °C 27 A

	(72 V) 3 Poles in Series, 60 °C 27 A (72 V) 3 Poles in Series, 70 °C 24 A
Rated Operational Current DC-13 (I_e)	(24 V) 6 A / 144 W (48 V) 2.8 A / 134 W (72 V) 1 A / 72 W (110 V) 0.55 A / 60 W (125 V) 0.55 A / 69 W (220 V) 0.27 A / 60 W (250 V) 0.27 A / 68 W (400 V) 0.15 A / 60 W (500 V) 0.13 A / 65 W (600 V) 0.1 A / 60 W
Rated Operational Power AC-3 (P_e)	(415 V) 5.5 kW (440 V) 5.5 kW (500 V) 7.5 kW (690 V) 7.5 kW (380 / 400 V) 5.5 kW (220 / 230 / 240 V) 3 kW
Rated Operational Power AC-3e (P_e)	(415 V) 5.5 kW (440 V) 5.5 kW (500 V) 7.5 kW (690 V) 7.5 kW (380 / 400 V) 5.5 kW (220 / 230 / 240 V) 3 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 for 0.1 s 140 A for 1 s 100 A
Maximum Breaking Capacity	$\cos \phi = 0.45$ ($\cos \phi = 0.35$ for $I_e > 100$ A) at 440 V 250 A $\cos \phi = 0.45$ ($\cos \phi = 0.35$ for $I_e > 100$ A) at 690 V 106 A
Rated Insulation Voltage (U_i)	acc. to IEC 60947-4-1 690 V acc. to IEC 60947-5-1 690 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) 1200 cycles per hour (AC-2 / AC-4) 300 cycles per hour (AC-3) 1200 cycles per hour (DC-13) 900 cycles per hour
Maximum Mechanical Switching Frequency	3600 cycles per hour
Rated Control Circuit Voltage (U_c)	50 Hz 24 ... 60 V 60 Hz 24 ... 60 V DC Operation 20 ... 60 V
Power Loss	at 6 A per Pole 0.1 W at Rated Operating Conditions AC-1 per Pole 1 W at Rated Operating Conditions AC-3 per Pole 0.2 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
Degree of Protection	acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP10 acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP10 acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP10
Tightening Torque	Auxiliary Circuit 1.2 N·m Control Circuit 1.2 N·m Main Circuit 1.5 N·m

Terminal Type	Ring-Tongue Terminals
Product Name	Block Contactor

Technical UL/CSA

NEMA Size	0
Continuous Current Rating NEMA	18 A
Horsepower Rating NEMA	(115 V AC) Single Phase 1 Hp (200 V AC) Three Phase 3 Hp (230 V AC) Single Phase 2 Hp (230 V AC) Three Phase 3 Hp (460 V AC) Three Phase 5 Hp (575 V AC) Three Phase 5 Hp
Maximum Operating Voltage UL/CSA	Main Circuit 600 V
General Use Rating UL/CSA	(600 V AC) 28 A
Horsepower Rating UL/CSA	(120 V AC) Single Phase 1 hp (200 ... 208 V AC) Three Phase 3 hp (220 ... 240 V AC) Three Phase 3 hp (240 V AC) Single Phase 2 hp (440 ... 480 V AC) Three Phase 7-1/2 hp (550 ... 600 V AC) Three Phase 10 hp
Tightening Torque UL/CSA	Auxiliary Circuit 11 in-lb Control Circuit 11 in-lb Main Circuit 13 in-lb
Full Load Amps Motor Use	(120 V AC) Single Phase 16 A (200 ... 208 V AC) Three Phase 11 A (220 ... 240 V AC) Three Phase 9.6 A (240 V AC) Single Phase 12 A (440 ... 480 V AC) Three Phase 11 A (550 ... 600 V AC) Three Phase 11 A

Environmental

Ambient Air Temperature	Close to Contactor Fitted with Thermal O/L Relay -25 ... 60 °C 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
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
SCIP	8d26875d-ef17-4edc-a76e-854d4481536b China
Simplified SCIP	0868d108-4d2e-4def-9a43-de172beba92a Belgium 10b89ca5-c935-4011-94f0-bbf2c67546a9 Poland 15da0a53-db2b-41ad-a3b2-858eb70c538d Netherlands 19b1cfbf-9db1-4b60-9f20-78e8dc7ad9cc Portugal

	24a9fc82-6a1c-4981-a3d0-3a5d15a44964 Hungary
	2c943319-e07a-44ae-be9c-760d5aed88bb Poland
	34f305dc-c39a-43d1-9292-a6e07a95c353 France
	426c064e-2203-4e8f-856d-f67d40f71d22 Poland
	5585c537-1368-4be6-b033-567f5dee7763 Germany
	5a871b9e-6f10-46f8-8f6d-ee564255ec4b Greece
	5eb058e4-b2ae-4cba-abe8-252ac5572c22 Finland
	5f3f3501-f464-4a57-a9ab-ae7258fdef63 Belgium
	6d4cb98b-88c4-4517-acf8-467a45f38d6e Sweden
	74159067-0f3b-47ec-aa63-26ec74e0af69 Germany
	769ce224-27c4-4766-a42d-8dacd2661d33 Germany
	76e7de93-e398-462a-8965-0da66588331c France
	80a01335-174d-48d1-879b-6b8c6bfb3d57 Germany
	88aff329-c1dc-4e9a-b854-5ec98d958a9e Czech Republic
	8977476e-ef8f-4fb9-82c3-3442a4be8351 Sweden
	98a60845-e5d6-477a-954f-5585a927888f Estonia
	a2d94c00-84b3-44bc-9cf0-a895ad0c455c Denmark
	ae1eb844-f3f2-4b0f-917e-c918be464bb4 Germany
	b8edd26e-9db2-48a8-a944-b9bd620db8a6 Hungary
	cb126c7c-a622-4dbd-9ceb-74746b06a0a4 Croatia
	e24fedf6-447d-4beb-8fd1-bf99a3dcbeca Spain
	f0972c44-60bf-4af2-b2f7-9a37e979bc3e Bulgaria
	f3278bb5-9bf1-4082-bf02-524d2dc5edfa Norway
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

ABB EcoSolutions	Yes
ABB Site Meeting Group Waste To Landfill Target	No non-hazardous waste is sent to a landfill
End Of Life Disassembling Instructions	1SBC101080M6801
Environmental Product Declaration - EPD	1SBD250584E3000
Improved Energy Efficiency for Customers	Product Efficiency - Product considered more energy-efficient compared to similar product on market or older products from the same line
Recyclability Rate of the Product acc. to EN45555	Design for Closing Resource Loops - Standard EN45555 - 92.7 %

Certificates and Declarations

CB Certificate	CB_SE-117714
CCC Certificate	CCC_2024010304656669
CQC Certificate	CQC2010010304445624
Declaration of Conformity - CCC	2020980304001253
Declaration of Conformity - CE	1SBD250004U1000
Declaration of Conformity - UKCA	1SBD250035U1000
UL Listing Card	UL_E312527
UR Certificate	UL_20121122-E312527_9_5

Container Information

Package Level 1 Units	box 1 piece
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Package Level 1 Width	87 mm
Package Level 1 Depth / Length	79 mm
Package Level 1 Height	47 mm
Package Level 1 Gross Weight	0.32 kg
Package Level 1 EAN	3471523127913

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
IDEA Granular Category Code (IGCC)	4758 >> lec Contactors

Accessories

Identifier	Description	Type	Quantity	Unit Of Measure
1SBN010110R1010	CA4-10 Auxiliary Contact Block	CA4-10	1	piece
1SBN010110T1010	CA4-10-T Auxiliary Contact Block	CA4-10-T	1	piece
1SBN010110R1001	CA4-01 Auxiliary Contact Block	CA4-01	1	piece
1SBN010110T1001	CA4-01-T Auxiliary Contact Block	CA4-01-T	1	piece
1SBN010120R1011	CAL4-11 Auxiliary Contact Block	CAL4-11	1	piece
1SBN010120T1011	CAL4-11-T Auxiliary Contact Block	CAL4-11-T	1	piece
1SBN010140R1322	CA4-22U Auxiliary Contact Block	CA4-22U	1	piece
1SBN010140R1122	CA4-22M Auxiliary Contact Block	CA4-22M	1	piece
1SBN010151R1011	CAT4-11E Auxiliary Contact / Coil Terminal Block	CAT4-11E	1	piece
1SBN010140R1331	CA4-31U Auxiliary Contact Block	CA4-31U	1	piece
1SBN010140R1131	CA4-31M Auxiliary Contact Block	CA4-31M	1	piece
1SBN010151R1111	CAT4-11M Auxiliary Contact / Coil Terminal Block	CAT4-11M	1	piece
1SBN010140R1340	CA4-40U Auxiliary Contact Block	CA4-40U	1	piece
1SBN010140R1113	CA4-13M Auxiliary Contact Block	CA4-13M	1	piece
1SBN010151R1311	CAT4-11U Auxiliary Contact / Coil Terminal Block	CAT4-11U	1	piece
1SBN070156T1000	LDC4 Additional Coil Terminal Block	LDC4	1	piece
1SBN010140R1104	CA4-04M Auxiliary Contact Block	CA4-04M	1	piece
1SBN010134R1011	CAL4-11K Auxiliary Contact Block	CAL4-11K	1	piece
1SBN110108T1000	BX4 Protective Cover	BX4	1	piece
1SBN010146R1104	CA4-04MK Auxiliary Contact Block	CA4-04MK	1	piece
1SBN010146R1113	CA4-13MK Auxiliary Contact Block	CA4-13MK	1	piece
1SBN070159T1000	LDC4K Additional Coil Terminal Block	LDC4K	1	piece
1SBN010160R1001	CA4-01K Auxiliary Contact Block	CA4-01K	1	piece
1SBN010160R1010	CA4-10K Auxiliary Contact Block	CA4-10K	1	piece
1SBN010146R1122	CA4-22MK Auxiliary Contact Block	CA4-22MK	1	piece
1SBN010160T1001	CA4-01K-T Auxiliary Contact Block	CA4-01K-T	1	piece
1SBN010160T1010	CA4-10K-T Auxiliary Contact Block	CA4-10K-T	1	piece
1SBN010146R1131	CA4-31MK Auxiliary Contact Block	CA4-31MK	1	piece

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF12

