



PRODUCT-DETAILS

AF09Z-30-10K-30

AF09Z-30-10K-30 24VDC Contactor



General Information

Extended Product Type	AF09Z-30-10K-30
Product ID	1SBL136005R3010
EAN	3471523155596
Catalog Description	AF09Z-30-10K-30 24VDC Contactor

Long Description

AF09Z..K 3-pole 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. AF09Z..K contactors with coil 30 include a 24 V DC electronic coil interface with a built-in surge suppression, obtaining a reduced holding coil consumption up to 1.7 W for a low panel energy consumption and a direct control by PLC-output ≥ 250 mA 24 V DC, without need of additional interface relay. Only AF..Z...-30 contactors need to respect the polarity on the coil terminals (A1+ and A2-). AF09Z..K include Push-in Spring terminals. Only one push is all you need for extremely fast wiring: faster than ever installation, easier than ever wiring, reliable as ever connections. 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) - Accessories: a wide range of accessories is available.

Ordering

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

Popular Downloads

Instructions and Manuals	1SBC101054M6801
CAD Dimensional Drawing	2CDC001079B0201

Dimensions

Product Net Width	45 mm
Product Net Depth / Length	97 mm
Product Net Height	92.3 mm
Product Net Weight	0.435 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
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, UL 60947-4-1, CSA C22.2 No. 60947-4-1
Rated Operational Voltage	Auxiliary Circuit 690 V Main Circuit 690 V
Rated Frequency (f)	Auxiliary Circuit 50 / 60 Hz Main Circuit 50 / 60 Hz
Rated Operational Current AC-1 (I _e)	(1000 V) 60 °C 25 A (690 V) 40 °C 25 A (690 V) 70 °C 22 A
Rated Operational Current AC-3 (I _e)	(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 Current AC-3e (I _e)	(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 _e)	(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 Operational Power AC-3e (P _e)	(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 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 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 Electrical Switching Frequency	(AC-15) 1200 cycles per hour (DC-13) 900 cycles per hour
Rated Operational Current DC-1 (I _e)	(110 V) 1-Pole, 40 °C 10 A (110 V) 1-Pole, 60 °C 10 A (110 V) 1-Pole, 70 °C 10 A (110 V) 2 Poles in Series, 40 °C 25 A (110 V) 2 Poles in Series, 60 °C 25 A (110 V) 2 Poles in Series, 70 °C 22 A (110 V) 3 Poles in Series, 40 °C 25 A (110 V) 3 Poles in Series, 60 °C 25 A (110 V) 3 Poles in Series, 70 °C 22 A (220 V) 2 Poles in Series, 40 °C 10 A (220 V) 2 Poles in Series, 60 °C 10 A (220 V) 2 Poles in Series, 70 °C 10 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 22 A (72 V) 1-Pole, 40 °C 25 A (72 V) 1-Pole, 60 °C 25 A (72 V) 1-Pole, 70 °C 22 A (72 V) 2 Poles in Series, 40 °C 25 A (72 V) 2 Poles in Series, 60 °C 25 A (72 V) 2 Poles in Series, 70 °C 22 A (72 V) 3 Poles in Series, 40 °C 25 A (72 V) 3 Poles in Series, 60 °C 25 A (72 V) 3 Poles in Series, 70 °C 22 A
Rated Operational Current DC-3 (I _e)	(110 V) 1-Pole, 40 °C 6 A (110 V) 1-Pole, 60 °C 6 A (110 V) 1-Pole, 70 °C 6 A (110 V) 2 Poles in Series, 40 °C 25 A (110 V) 2 Poles in Series, 60 °C 25 A (110 V) 2 Poles in Series, 70 °C 22 A (110 V) 3 Poles in Series, 40 °C 25 A (110 V) 3 Poles in Series, 60 °C 25 A (110 V) 3 Poles in Series, 70 °C 22 A (220 V) 2 Poles in Series, 40 °C 6 A (220 V) 2 Poles in Series, 60 °C 6 A (220 V) 2 Poles in Series, 70 °C 6 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 22 A (72 V) 1-Pole, 40 °C 25 A (72 V) 1-Pole, 60 °C 25 A (72 V) 1-Pole, 70 °C 22 A (72 V) 2 Poles in Series, 40 °C 25 A (72 V) 2 Poles in Series, 60 °C 25 A (72 V) 2 Poles in Series, 70 °C 22 A (72 V) 3 Poles in Series, 40 °C 25 A (72 V) 3 Poles in Series, 60 °C 25 A (72 V) 3 Poles in Series, 70 °C 22 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 10 A (110 V) 2 Poles in Series, 60 °C 10 A (110 V) 2 Poles in Series, 70 °C 10 A (110 V) 3 Poles in Series, 40 °C 25 A (110 V) 3 Poles in Series, 60 °C 25 A (110 V) 3 Poles in Series, 70 °C 22 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 9 A (220 V) 3 Poles in Series, 60 °C 9 A (220 V) 3 Poles in Series, 70 °C 9 A (72 V) 1-Pole, 40 °C 9 A (72 V) 1-Pole, 60 °C 9 A (72 V) 1-Pole, 70 °C 9 A (72 V) 2 Poles in Series, 40 °C 25 A (72 V) 2 Poles in Series, 60 °C 25 A (72 V) 2 Poles in Series, 70 °C 22 A (72 V) 3 Poles in Series, 40 °C 25 A (72 V) 3 Poles in Series, 60 °C 25 A (72 V) 3 Poles in Series, 70 °C 22 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 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 Mechanical Switching Frequency	3600 cycles per hour
Rated Control Circuit Voltage (U _c)	DC Operation 24 V
Coil Consumption	Average Holding Value DC 1.7 W Average Pull-in Value, from Cold State 6 W
Operate Time	Between Coil De-energization and NC Contact Closing 22 ... 57 ms Between Coil De-energization and NO Contact Opening 17 ... 29 ms Between Coil Energization and NC Contact Opening 20 ... 35 ms Between Coil Energization and NO Contact Closing 27 ... 53 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 0.5 ... 4 mm ² Flexible with Insulated Ferrule 1x 0.5 ... 4 mm ² Flexible with Insulated Ferrule 2x 0.5 ... 2.5 mm ² Flexible 1/2x 0.5 ... 4 mm ² Rigid Solid 1/2x 1 ... 2.5 mm ² Rigid Stranded 1/2x 4 ... 6 mm ²
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 1/2x 0.5 ... 2.5 mm ² Flexible with Insulated Ferrule 1/2x 0.5 ... 1.5 mm ² Flexible 1/2x 0.5 ... 2.5 mm ² Rigid Solid 1/2x 1 ... 2.5 mm ²
Connecting Capacity Control Circuit	Flexible with Ferrule 1/2x 0.5 ... 2.5 mm ² Flexible with Insulated Ferrule 1/2x 0.5 ... 1.5 mm ² Flexible 1/2x 0.5 ... 2.5 mm ² Rigid Solid 1/2x 1 ... 2.5 mm ²
Wire Stripping Length	Auxiliary Circuit 10 mm Control Circuit 10 mm Main Circuit 10 mm
Degree of Protection	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
Terminal Type	Push-in Spring Terminals

Technical UL/CSA

NEMA Size	00
Maximum Operating Voltage UL/CSA	Main Circuit 600 V
General Use Rating UL/CSA	(600 V AC) 25 A
Horsepower Rating UL/CSA	(120 V AC) Single Phase 3/4 hp (200 ... 208 V AC) Three Phase 2 hp (220 ... 240 V AC) Three Phase 2 hp (240 V AC) Single Phase 1-1/2 hp (440 ... 480 V AC) Three Phase 5 hp (550 ... 600 V AC) Three Phase 7-1/2 hp
Connecting Capacity Main Circuit UL/CSA	Rigid Solid 1/2x 18-14 AWG Rigid Stranded 1/2x 18-10 AWG
Connecting Capacity Auxiliary Circuit UL/CSA	Rigid Solid 1/2x 18-14 AWG
Connecting Capacity Control Circuit UL/CSA	Rigid Solid 1/2x 18-14 AWG

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

Material Compliance

Conflict Minerals	9AKK108467A5658
Reporting Template (CMRT)	
REACH Declaration	2CMT2021-006202
RoHS Information	2CMT2021-006277
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)

Certificates and Declarations

CB Certificate	CB_SE-108879
CCC Certificate	CCC_2010010304445624
CQC Certificate	CQC2010010304445624 CQC2020010304298240
Declaration of Conformity - CCC	2020980304001253 2020980304001082
Declaration of Conformity - CE	1SBD250000U1000
Declaration of Conformity - UKCA	1SBD250031U1000
DNV Certificate	DNV_TAE00001AF-4
LR Certificate	LRS_LR23403517TA-02
RMRS Certificate	RMRS_1802705280
UL Certificate	UL-US-2150887-5 UL-CA-2142658-5

Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	96 mm
Package Level 1 Depth / Length	112 mm
Package Level 1 Height	50 mm
Package Level 1 Gross Weight	0.467 kg
Package Level 1 EAN	3471523155596
Package Level 2 Units	crate 12 piece
Package Level 2 Width	245 mm
Package Level 2 Depth / Length	245 mm
Package Level 2 Height	153 mm
Package Level 2 Gross Weight	5.6 kg

Classifications

Object Classification Code	Q
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ETIM 4	EC000066 - Magnet contactor, AC-switching
ETIM 5	EC000066 - Magnet contactor, AC-switching
ETIM 6	EC000066 - Power contactor, AC switching
ETIM 7	EC000066 - Power contactor, AC switching
ETIM 8	EC000066 - Power contactor, AC switching
eClass	V11.0 : 27371018
UNSPSC	39121529

Categories

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

