

# AF09ZB-30-10RT-21



AF09ZB-30-10RT-21 24-60V50/60HZ 20-60VDC Contactor

## General Information

Extended Product Type	AF09ZB-30-10RT-21
Product ID	1SBL136060R2110
EAN	3471523127616
Catalog Description	AF09ZB-30-10RT-21 24-60V50/60HZ 20-60VDC Contactor
Long Description	AF09ZB..RT 3-pole contactors comply with the latest railway rolling stock standards and allow installation in passengers or driver cabins for trains frequently operating tunnels or undergrounds. They are mainly used for controlling 3-phase motors and power circuits up to 690 V AC and 220 V DC. Improve the compactness of the installations thanks to reduced dimension and side-by-side mounting requiring less 15% width (without spacing) from -40 °C up to +70 °C. Meet all main rolling stocks standards: IEC 60947-4-1, IEC 60947-5-1, IEC 60077-1/-2 and applicable parts of EN 50155 standards, shocks and vibration withstand conforming to IEC 61373 cat. 1, class B. Reach the highest levels in fire and smoke behaviour with compliance to European standard EN 45545-2 (HL2, HL3 hazard levels) in group mounting Reduce train energy with lighter devices and requiring 68% less coil energy consumption in operation. Electronic coil interface handling large DC voltage fluctuation voltage, including several U <sub>c</sub> DC control voltages used for battery supply and accepting sinusoidal AC 50/60 Hz control supplies included inside U <sub>cmin</sub> ... U <sub>cmax</sub> voltage range. Max permitted AC 50/60 Hz control voltage must not be exceeded (see technical data). Wide range of auxiliary contact blocks for front and side mounting.

## Ordering

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

## Popular Downloads

Data Sheet, Technical Information	1SBC100178C0201
Instructions and Manuals	1SBC101035M6801

## 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
Rated Operational Voltage	Auxiliary Circuit 690 V Main Circuit 690 V
Rated Frequency (f)	Auxiliary Circuit 50 / 60 Hz Main Circuit 50 / 60 Hz
Conventional Free-air Thermal Current ( $I_{th}$ )	acc. to IEC 60947-4-1, Open Contactors $q = 40\text{ °C}$ 35 A acc. to IEC 60947-5-1, $q = 40\text{ °C}$ 16 A
Rated Operational Current AC-1 ( $I_e$ )	(690 V) $40\text{ °C}$ 25 A (690 V) $60\text{ °C}$ 25 A (690 V) $70\text{ °C}$ 22 A
Rated Operational Current AC-3 ( $I_e$ )	(220 / 230 / 240 V) $60\text{ °C}$ 9 A (380 / 400 V) $60\text{ °C}$ 9 A (415 V) $60\text{ °C}$ 9 A (440 V) $60\text{ °C}$ 9 A (500 V) $60\text{ °C}$ 9.5 A (690 V) $60\text{ °C}$ 7 A
Rated Operational Power AC-3 ( $P_e$ )	(220 / 230 / 240 V) 2.2 kW (380 / 400 V) 4 kW (415 V) 4 kW (440 V) 4 kW (500 V) 5.5 kW (690 V) 5.5 kW
Rated Operational Current AC-15 ( $I_e$ )	(220 / 240 V) 4 A (24 / 127 V) 6 A (400 / 440 V) 3 A (500 V) 2 A (690 V) 2 A
Rated Short-time Withstand Current ( $I_{cw}$ )	at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 10 s 150 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 15 min 35 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 1 min 60 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 1 s 300 A at $40\text{ °C}$ 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 $I_e > 100\text{ A}$ ) 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 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
Rated Operational Current DC-13 ( $I_e$ )	(110 V) 0.55 A / 60 W (220 V) 0.27 A / 60 W (400 V) 0.15 A / 60 W (500 V) 0.13 A / 65 W (600 V) 0.1 A / 60 W (125 V) 0.55 A / 69 W (24 V) 6 A / 144 W (250 V) 0.27 A / 68 W (48 V) 2.8 A / 134 W (72 V) 1 A / 72 W
Rated Insulation Voltage ( $U_i$ )	acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 690 V
Rated Impulse Withstand Voltage ( $U_{imp}$ )	6 kV
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
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
Terminal Type	Ring-Tongue Terminals

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## Environmental

Ambient Air Temperature	Close to Contactor for Storage -60 ... +80 °C Close to Contactor Fitted with Thermal O/L Relay -25 ... +60 °C Close to Contactor without Thermal O/L Relay -40 ... +70 °C
Climatic Withstand	Category B according to IEC 60947-1 Annex Q
Maximum Operating Altitude Permissible	3000 m

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## Technical UL/CSA

General Use Rating UL/CSA	(600 V AC) 25 A
Horsepower Rating UL/CSA	(120 V AC) Single Phase 3/4 Hp (240 V AC) Single Phase 1-1/2 Hp (200 ... 208 V AC) Three Phase 2 Hp (220 ... 240 V AC) Three Phase 2 Hp (440 ... 480 V AC) Three Phase 5 Hp (550 ... 600 V AC) Three Phase 7-1/2 Hp

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## Certificates and Declarations (Document Number)

CB Certificate	CB_SE-80871M3
CCC Certificate	CCC_2010010304445624
Declaration of Conformity - CE	1SBD250004U1000
EAC Certificate	EAC_RU C-FR ME77 B01010
Environmental Information	1SBD250165E1000
Instructions and Manuals	1SBC101035M6801
RoHS Information	1SBD251016E1000
UL Certificate	UL_20121122-E312527_9_5
UL Listing Card	UL_E312527

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## Container Information

Package Level 1 Units	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	0.32 kg
Package Level 1 EAN	3471523127616
Package Level 2 Units	54 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	17.28 kg
Package Level 3 Units	1296 piece

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## Classifications

Object Classification Code	Q
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
UNSPSC	39121529

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## Categories

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

