PRODUCT-DETAILS

NFZB31E-21

NFZB31E-21 24-60V50/60HZ 20-60VDC Contactor Relay



General Information

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Extended Product Type	NFZB31E-21
Product ID	1SBH136061R2131
EAN	3471523105614
Catalog Description	NFZB31E-21 24-60V50/60HZ 20-60VDC Contactor Relay
Long Description	The NFZB31E-21 is a contactor relay complying with the latest railway rolling stock standards and allowing installation in passengers or driver cabins for trains frequently operating tunnels or undergrounds. It is used for switching auxiliary and control circuits. These contactor relays: • include screw terminals for connection with standard ferrules for a safe insertion and wiring of cables. • 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 general and rolling stocks standards: IEC 60947-5-1 and the applicable parts of IEC 60077-1/-2 and EN 50155 standards, shocks and vibration withstand conforming to IEC 61373 cat. 1, class B • get an electronic coil interface accepting a wide DC control voltage range including the main control supplies e.g. Uc = 24, 33, 48 V DC, as per defined by IEC 60077 (0.7 ... 1.25 Uc operating limits for battery supply) • 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 • get an electronic coil interface accepting sinusoïdal AC 50/60 Hz control supplies included inside Ucmin.... Ucmax voltage range. Max permitted AC 50/60 Hz control voltage must not be exceeded (see technical data) • include mechanically-linked auxiliary contacts compliant with Annex L of IEC 60947-5-1 and are side-marked with the "Mechanically Linked" symbol • include a 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	1SBC100220C0201
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	0.31 kg

Technical

Number of Auxiliary Contacts NO	3
Number of Auxiliary Contacts NC	1
Standards	IEC/EN 60947-1, IEC/EN 60947-5-1, UL 60947-5-1, CSA C22.2 No. 60947-5-1, IEC 60077-1 (applicable parts), IEC 60077-2 (applicable parts), EN 50155

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	(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
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 60947-5-1, Θ = 40 °C 16 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 Short-time Withstand Current Low Voltage (I_{cw})	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-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 60947-5-1 690 V acc. to UL/CSA 600 V
Rated Impulse Withstand Voltage (U_{imp})	6 kV
Maximum Mechanical Switching Frequency	6000 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
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 Auxiliary Circuit	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm² Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm² Rigid Solid 1/2x 1 ... 2.5 mm² Rigid Stranded 1/2x 1 ... 2.5 mm²
Connecting Capacity Control Circuit	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm² Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm² Rigid Solid 1/2x 1 ... 2.5 mm² Rigid Stranded 1/2x 1 ... 2.5 mm²
Wire Stripping Length	Control 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
Terminal Type	Screw Terminals

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Technical UL/CSA

Connecting Capacity Auxiliary Circuit UL/CSA	Rigid Solid 1/2x 18-14 AWG Rigid Stranded 1/2x 18-14 AWG
Tightening Torque UL/CSA	Auxiliary Circuit 11 in·lb Control Circuit 11 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

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
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

Certificates and Declarations

CB Certificate	CB_SE-93051M2
CCC Certificate	CCC_2011010303465426
CQC Certificate	CQC2019010303267993
Declaration of Conformity - CCC	2020980303000175
Declaration of Conformity - CE	1SBD250006U1000
Declaration of Conformity - UKCA	1SBD250037U1000
EAC Certificate	EAC_RU C-FR ME77 B01006
GOST Certificate	GOST_POCCFR.ME77.B07174.pdf
RMRS Certificate	RMRS_1802702280
UL Certificate	UL_20180227_E252354_2_1
UL Listing Card	UL_E252354

Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	87 mm

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Package Level 1 Depth / Length	79 mm
Package Level 1 Height	47 mm
Package Level 1 Gross Weight	0.31 kg
Package Level 1 EAN	3471523105614
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	16.74 kg
Package Level 3 Units	1296 piece

Classifications

Object Classification Code	K
ETIM 7	EC000196 - Contactor relay
ETIM 8	EC000196 - Contactor relay
ETIM 9	EC000196 - Contactor relay
eClass	V11.0 : 27371001
UNSPSC	39121529
IDEA Granular Category Code (IGCC)	4763 >> Power contactor, DC switching

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → NF Contactor Relays



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