PRODUCT-DETAILS

NFZB40EK-21

NFZB40EK-21 24-60V50/60HZ 20-60VDC Contactor Relay



General Information

© 2025 ABB. All rights reserved.

Extended Product Type	NFZB40EK-21
Product ID	1SBH136063R2140
EAN	3471523010642
Catalog Description	NFZB40EK-21 24-60V50/60HZ 20-60VDC Contactor Relay
Long Description	The NFZB40EK-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 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. • 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 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	1SBC101054M6801
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	92.3 mm
Product Net Weight	0.315 kg

Technical

Number of Auxiliary Contacts NO	4
Number of Auxiliary Contacts NC	0
Number of Poles	4P

© 2025 ABB. All rights reserved.

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 (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 60947-5-1, 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 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 Short-time Withstand Current Low Voltage (I_{cw})	for 0.1 s 140 A for 1 s 100 A
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 Electrical Switching Frequency	(AC-15) 1200 cycles per hour (DC-13) 900 cycles per hour
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 0.5 ... 2.5 mm² Flexible with Insulated Ferrule 1/2x 0.5 ... 1.5 mm² Flexible 1/2x 0.5 ... 2.5 mm² Rigid Solid 1/2x 1 ... 2.5 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 Solid 1/2x 1 ... 2.5 mm²
Wire Stripping Length	Auxiliary Circuit 10 mm 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	Push-in Spring Terminals
Product Name	Block Contactor Relay

© 2025 ABB. All rights reserved.

Technical UL/CSA

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 for Storage -60 ... +80 °C Near Contactor for Operation in Free Air -40 ... 70 °C Near Contactor for Operation in Free Air (0.85 ... 1.1 Uc) -40 ... +60 °C Near Contactor for Operation in Free Air (Uc) -40 ... 70 °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
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	1SBD250584E3000
Sustainable Material Content in Packaging (wt. %)	Recycled Cardboard - 86 %
Sustainable Material Content in Product (wt. %)	Recycled Metal - 28 %

Certificates and Declarations

ABS Certificate	ABS_20-2060694-PDA
CB Certificate	CB_SE-116792
CCC Certificate	CCC_2024010303656666
Declaration of Conformity - CCC	2020980303000175
Declaration of Conformity - CE	1SBD250006U1000
Declaration of	1SBD250037U1000

© 2025 ABB. All rights reserved.

Conformity - UKCA	
DNV Certificate	DNV_TAE00001BV-5
RINA Certificate	RINA_ELE142224XG
RMRS Certificate	RMRS_1802702280
UL Certificate	UL_20180227_E252354_2_1

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	0.37 kg
Package Level 1 EAN	3471523010642

External Classifications and Standards

Object Classification Code	K
ETIM 7	EC000196 - Contactor relay
ETIM 8	EC000196 - Contactor relay
ETIM 9	EC000196 - Contactor relay
eClass	V11.0 : 27371001
UNSPSC	39121500

Categories

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



© 2025 ABB. All rights reserved.