



PRODUCT-DETAILS

# NFZ22EK-20

## NFZ22EK-20 12-20VDC Contactor Relay



| General Information   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | NFZ22EK-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Product ID            | 1SBH136005R2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EAN                   | 3471523153301                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Catalog Description   | NFZ22EK-20 12-20VDC Contactor Relay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Long Description      | <p>NFZ..K contactor relays are used for switching auxiliary and control circuits. NFZ contactor relays include an electronic coil interface accepting a wide control voltage <math>U_c</math> min. ... <math>U_c</math> max. Only four coils cover control voltages between 24...250 V 50/60 Hz or 12...250 V DC. NF contactor relays can manage large control voltage variations. One coil can be used for different control voltages used worldwide without any coil change NFZ contactor relays allow direct control by PLC-output <math>\geq 24</math> V DC 500 mA and obtain a reduced holding coil consumption. NFZ contactor relays withstand short voltage dips and voltage sags (SEMI F47-0706 compliance) between 24...250 V 50/60 Hz NFZ contactor relays have built-in surge protection and do not require additional surge suppressors. Only NFZ..-20 contactor relays need to respect the polarity on the coil terminals (A1+ and A2-). NFZ..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. - Poles: 4-pole contactor relays (mechanically-linked auxiliary contacts compliant with Annex L of IEC 60947-5-1 and including the "Mechanically Linked" symbol on the contactor relay side) - Accessories: a wide range of accessories is available.</p> |

Ordering

|                        |         |
|------------------------|---------|
| Minimum Order Quantity | 1 piece |
|------------------------|---------|

Popular Downloads

|                                   |                 |
|-----------------------------------|-----------------|
| Data Sheet, Technical Information | 1SBC100214C0202 |
| Instructions and Manuals          | 1SBC101054M6801 |
| 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                                   | 2                                                                                                                                                                                                                                             |
| Number of Auxiliary Contacts NC                                   | 2                                                                                                                                                                                                                                             |
| Standards                                                         | IEC/EN 60947-1, IEC/EN 60947-5-1, UL 508, CSA C22.2 No. 14-13                                                                                                                                                                                 |
| Rated Operational Voltage                                         | Auxiliary Circuit 690 V<br>Main Circuit 690 V                                                                                                                                                                                                 |
| Rated Frequency (f)                                               | Auxiliary Circuit 50 / 60 Hz                                                                                                                                                                                                                  |
| Conventional Free-air Thermal Current (I <sub>th</sub> )          | acc. to IEC 60947-5-1, $\Theta = 40\text{ }^{\circ}\text{C}$ 16 A                                                                                                                                                                             |
| Rated Operational Current AC-15 (I <sub>e</sub> )                 | (500 V) 2 A<br>(690 V) 2 A<br>(24 / 127 V) 6 A<br>(220 / 240 V) 4 A<br>(400 / 440 V) 3 A                                                                                                                                                      |
| Rated Short-time Withstand Current Low Voltage (I <sub>cw</sub> ) | for 0.1 s 140 A<br>for 1 s 100 A                                                                                                                                                                                                              |
| Maximum Electrical Switching Frequency                            | (AC-15) 1200 cycles per hour<br>(DC-13) 900 cycles per hour                                                                                                                                                                                   |
| Rated Operational Current DC-13 (I <sub>e</sub> )                 | (24 V) 6 A / 144 W<br>(48 V) 2.8 A / 134 W<br>(72 V) 1 A / 72 W<br>(110 V) 0.55 A / 60 W<br>(125 V) 0.55 A / 69 W<br>(220 V) 0.27 A / 60 W<br>(250 V) 0.27 A / 68 W<br>(400 V) 0.15 A / 60 W<br>(500 V) 0.13 A / 65 W<br>(600 V) 0.1 A / 60 W |
| Rated Insulation Voltage (U <sub>i</sub> )                        | acc. to IEC 60947-5-1 690 V<br>acc. to UL/CSA 600 V                                                                                                                                                                                           |
| Rated Impulse Withstand Voltage (U <sub>imp</sub> )               | 6 kV                                                                                                                                                                                                                                          |
| Maximum Mechanical Switching Frequency                            | 6000 cycles per hour                                                                                                                                                                                                                          |

|                                                 |                                                                                                                                                                                                                                                                        |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Control Circuit Voltage (U <sub>c</sub> ) | DC Operation 12 ... 20 V                                                                                                                                                                                                                                               |
| Operate Time                                    | Between Coil De-energization and NC Contact Closing 13 ... 98 ms<br>Between Coil De-energization and NO Contact Opening 11 ... 95 ms<br>Between Coil Energization and NC Contact Opening 38 ... 90 ms<br>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<br>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 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1/2x 0.5 ... 1.5 mm <sup>2</sup><br>Flexible 1/2x 0.5 ... 2.5 mm <sup>2</sup><br>Rigid Solid 1/2x 1 ... 2.5 mm <sup>2</sup>                                                  |
| Connecting Capacity Control Circuit             | Flexible with Ferrule 1/2x 0.5 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1/2x 0.5 ... 1.5 mm <sup>2</sup><br>Flexible 1/2x 0.5 ... 2.5 mm <sup>2</sup><br>Rigid Solid 1/2x 1 ... 2.5 mm <sup>2</sup>                                                  |
| Wire Stripping Length                           | Auxiliary Circuit 10 mm<br>Control Circuit 10 mm                                                                                                                                                                                                                       |
| Degree of Protection                            | acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP20<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20                                                                                                                                      |
| Terminal Type                                   | Push-in Spring Terminals                                                                                                                                                                                                                                               |

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<br>Near Contactor for Operation in Free Air -40 ... 70 °C<br>Near Contactor for Operation in Free Air (0.85 ... 1.1 U <sub>c</sub> ) -40 ... +60 °C<br>Near Contactor for Operation in Free Air (U <sub>c</sub> ) -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                                                                                                                                                                                                                            |

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 | 1SBD250584E3000 |
|-----------------------|-----------------|

Declaration - EPD

Certificates and Declarations

|                                     |                         |
|-------------------------------------|-------------------------|
| ABS Certificate                     | ABS_20-2060694-PDA      |
| CB Certificate                      | CB_SE-93051M2           |
| CCC Certificate                     | 2020980303000185        |
| CQC Certificate                     | CQC2019010303267993     |
| Declaration of<br>Conformity - CCC  | CQC2011010303465426     |
| Declaration of<br>Conformity - CE   | 1SBD250005U1000         |
| Declaration of<br>Conformity - UKCA | 1SBD250036U1000         |
| DNV Certificate                     | DNV_TAE00001BV-5        |
| KC Certificate                      | KC-HW02016-21030A       |
| LR Certificate                      | LRS_LR2003684TA-02      |
| 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 /<br>Length | 86 mm         |
| Package Level 1 Height            | 45 mm         |
| Package Level 1 Gross<br>Weight   | 0.33 kg       |
| Package Level 1 EAN               | 3471523153301 |
| Package Level 2 Units             | box 21 piece  |
| Package Level 2 Width             | 250 mm        |
| Package Level 2 Depth /<br>Length | 300 mm        |
| Package Level 2 Height            | 315 mm        |
| Package Level 2 Gross<br>Weight   | 14.85 kg      |
| Package Level 3 Units             | 1080 piece    |

Classifications

|                                       |                                       |
|---------------------------------------|---------------------------------------|
| Object Classification<br>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<br>Code (IGCC) | 4763 >> Power contactor, DC switching |
| E-Number (Finland)                    | 3707979                               |

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## Categories

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

