



PRODUCT-DETAILS

# NFZ22E-20

## NFZ22E-20 12-20VDC Contactor Relay



General Information

|                       |                                    |
|-----------------------|------------------------------------|
| Extended Product Type | NFZ22E-20                          |
| Product ID            | 1SBH136001R2022                    |
| EAN                   | 3471523101708                      |
| Catalog Description   | NFZ22E-20 12-20VDC Contactor Relay |

Long Description

NFZ contactor relays are used for switching auxiliary and control circuits. NFZ contactor relays include an electronic coil interface accepting a wide control voltage  $U_c$  min. ...  $U_c$  max. Only four coils cover control voltages between 24...250 V 50/60 Hz or 12...250 V DC. NFZ 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  $\geq 24$  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 - 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) - Control Circuit: DC operated for NF..Z-20 contactors. Only NF..Z-20 contactor relays need to respect the polarity on the coil terminals (A1+ and A2-). - Accessories: a wide range of Accessories is available.

Ordering

|                        |          |
|------------------------|----------|
| Minimum Order Quantity | 1 piece  |
| Customs Tariff Number  | 85364900 |

Popular Downloads

|                          |                 |
|--------------------------|-----------------|
| 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                             | 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                                                                                                                                                                                                                                                |
| Rated Frequency (f)                                         | Auxiliary Circuit 50 / 60 Hz                                                                                                                                                                                                                                           |
| Conventional Free-air Thermal Current ( $I_{th}$ )          | acc. to IEC 60947-5-1, $\Theta = 40\text{ }^{\circ}\text{C}$ 16 A                                                                                                                                                                                                      |
| Rated Operational Current AC-15 ( $I_e$ )                   | (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 ( $I_{cw}$ ) | 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 ( $I_e$ )                   | (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 ( $U_i$ )                          | acc. to IEC 60947-5-1 690 V<br>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 ( $U_c$ )                     | 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 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm <sup>2</sup>                                                                                                                                             |

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
|                       | Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm <sup>2</sup>   |
|                       | Rigid Solid 1/2x 1 ... 2.5 mm <sup>2</sup>                        |
|                       | Rigid Stranded 1/2x 1 ... 2.5 mm <sup>2</sup>                     |
| Connecting Capacity   | Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup>           |
| Control Circuit       | Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm <sup>2</sup>   |
|                       | Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm <sup>2</sup>   |
|                       | Rigid Solid 1/2x 1 ... 2.5 mm <sup>2</sup>                        |
|                       | Rigid Stranded 1/2x 1 ... 2.5 mm <sup>2</sup>                     |
| 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         | Screw Terminals                                                   |

## Technical UL/CSA

|                          |                               |
|--------------------------|-------------------------------|
| Connecting Capacity      | Rigid Solid 1/2x 18-14 AWG    |
| Auxiliary Circuit UL/CSA | Rigid Stranded 1/2x 18-14 AWG |
| Tightening Torque        | Auxiliary Circuit 11 in-lb    |
| UL/CSA                   | 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                                |
| Resistance to Shock acc. to IEC 60068-2-27 | Closed, Shock Direction: B1 25 g                       |
|                                            | Open, Shock Direction: B1 5 g                          |
|                                            | Shock Direction: A 30 g                                |
|                                            | Shock Direction: B2 15 g                               |
|                                            | Shock Direction: C1 25 g                               |
|                                            | Shock Direction: C2 25 g                               |
| 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                          |
| 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

|                                  |                     |
|----------------------------------|---------------------|
| ABS Certificate                  | ABS_20-2060694-PDA  |
| BV Certificate                   | BV_2634H24899C0     |
| CB Certificate                   | CB_SE-93051M2       |
| CCC Certificate                  | 2020980303000185    |
| CQC Certificate                  | CQC2019010303267993 |
| Declaration of Conformity - CCC  | CQC2011010303465426 |
| Declaration of Conformity - CE   | 1SBD250005U1000     |
| Declaration of Conformity - UKCA | 1SBD250036U1000     |

|                  |                             |
|------------------|-----------------------------|
| DNV Certificate  | DNV_TAE00001BV-5            |
| EAC Certificate  | EAC_RU C-FR ME77 B03544     |
| GOST Certificate | GOST_POCCFR.ME77.B07174.pdf |
| KC Certificate   | KC-HW02016-21030A           |
| LR Certificate   | LRS_LR2003684TA-02          |
| RINA Certificate | RINA_ELE240318XG            |
| 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         |
| 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            | 3471523101708 |
| 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 4                             | EC000196 - Contactor relay            |
| ETIM 5                             | EC000196 - Contactor relay            |
| ETIM 6                             | EC000196 - Contactor relay            |
| ETIM 7                             | EC000196 - Contactor relay            |
| ETIM 8                             | EC000196 - Contactor relay            |
| eClass                             | V11.0 : 27371001                      |
| UNSPSC                             | 39121529                              |
| IDEA Granular Category Code (IGCC) | 4763 >> Power contactor, DC switching |
| E-Number (Finland)                 | 3706403                               |

Categories

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

