



**Electric Automation**  
Automation specialists

Reference: NFZ31E-2  
Code: 1SBH136001R2331

NFZ31E-23 100-250V50/60HZ-DC  
Contactor Relay

Buy it at Electric Automation Network



NFZ contactor relays are used for switching auxiliary and control circuits. NFZ contactor relays include an electronic coil interface accepting a wide control voltage  $U_c \text{ min.} \dots U_c \text{ max.}$  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  $\geq 24 \text{ V DC } 500 \text{ mA}$  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: AC or DC operated - Accessories: a wide range of Accessories is available.

#### Ordering

EAN:	3471523101838
Minimum Order Quantity:	1 piece
Customs Tariff Number:	85369085

#### Dimensions

Product Net Width:	45 mm
Product Net Depth:	77 mm

Product Net Height:	86 mm
Product Net Weight:	0.310 kg

## Container Information

Package Level 1 Units:	1 piece
Package Level 1 Width:	87 mm
Package Level 1 Length:	79 mm
Package Level 1 Height:	47 mm
Package Level 1 Gross Weight:	0.31 kg
Package Level 1 EAN:	3471523101838
Package Level 2 Units:	54 piece
Package Level 2 Width:	250 mm
Package Level 2 Length:	300 mm
Package Level 2 Height:	315 mm
Package Level 3 Units:	1296 piece

## Technical

Number of Auxiliary Contacts NO:	3
Number of Auxiliary Contacts NC:	1
Standards:	IEC 60947-5-1 and EN 60947-5-1, UL 508, CSA C22.2 N° 14
Rated Operational Voltage:	Auxiliary Circuit 690 V Main Circuit 690 V
Rated Frequency (f):	Auxiliary Circuit 50 / 60 Hz
Conventional Free-air Thermal Current ( $I_{th}$ ):	acc. to IEC 60947-5-1, $q = 40\text{ °C}$ 16 A
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 ( $I_{cw}$ ):	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 ( $I_e$ ):	(110 V) 0.55 A / 60 W (125 V) 0.55 A / 69 W (220 V) 0.27 A / 60 W (24 V) 6 A / 144 W (250 V) 0.27 A / 68 W (400 V) 0.15 A / 60 W (48 V) 2.8 A / 134 W (500 V) 0.13 A / 65 W (600 V) 0.1 A / 60 W (72 V) 1 A / 72 W

Rated Insulation Voltage (U <sub>i</sub> ):	acc. to UL/CSA 600 V acc. to IEC 60947-5-1 and VDE 0110 (Gr. C) 690 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> ):	50 Hz 100 ... 250 V 60 Hz 100 ... 250 V DC Operation 100 ... 250 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
Connecting Capacity-Auxiliary Circuit:	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup> 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 1/2x 1...2.5 mm <sup>2</sup>
Connecting Capacity-Control Circuit:	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup> 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 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

## Environmental

Ambient Air Temperature:	Close to Contactor for Storage -60...+80 °C Near Contactor for Operation in Free Air -40 ... +70 °C
Maximum Operating Altitude Permissible:	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 acc. to IEC 60068-2-6:	5...300 Hz 4 g closed position / 2 g open position
RoHS Status:	Planned to follow EU Directive 2002/95/EC August 18, 2005 and amendment after 2008 Q1

## Technical UL/CSA

Tightening Torque UL/CSA:	Auxiliary Circuit 11 in·lb Control Circuit 11 in·lb
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## Certificates and Declarations (Document Number)

ABS Certificate:	ABS_15-GE1349500-PDA_90682247
CB Certificate:	CB_SE_70920A1M2
CCC Certificate:	CCC_2011010303465426
cUL Certificate:	UL_20091127-E252354-2-1
Declaration of Conformity - CE:	1SBD250166C2000
DNV Certificate:	DNV_E11683
EAC Certificate:	EAC_RU C-FR ME77 B01006
GL Certificate:	GL_3786612HH
GOST Certificate:	GOST_POCCFR.ME77.B07174.pdf
LR Certificate:	LRS_C1400038
RINA Certificate:	RINA_ELE084013XG
RMRS Certificate:	RMRS_1300132124
RoHS Information:	1SBD251014E1000

## Classifications

E-nummer:	3211461
ETIM 5:	EC000196 - Contactor relay
UNSPSC:	39121500