# NF22E-13





NF22E-13 100-250V50/60HZ-DC Contactor Relay

#### **General Information**

Extended Product Type	NF22E-13
Product ID	1SBH137001R1322
EAN	3471523100138
Catalog Description	NF22E-13 100-250V50/60HZ-DC Contactor Relay
Long Description	NF contactor relays are used for switching auxiliary and control circuits. NF contactor relays include an electronic coil interface accepting a wide control voltage Uc min Uc max. Only four coils cover control voltages between 24500 V 50/60 Hz or 20500 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. NF 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

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

## Popular Downloads

Instructions and Manuals	1SBC101027M6801	

#### Dimensions

Product Net Width	45 mm
Product Net Depth / Length	77 mm
Product Net Height	86 mm
Product Net Weight	0.27 kg

#### Technical

Number of Auxiliary Contacts NO	2
Number of Auxiliary Contacts NC	2
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 <sub>th</sub> )	acc. to IEC 60947-5-1, q = 40 °C 16 A

NF22E-13 2

Rated Short-time Withstand Current (I <sub>Cev</sub> )  Maximum Electrical Switching Frequency  AC-15 1200 cycles per hour DC-13 900 cycles per hour CC-13 900 cycles per hour CRated Operational Current DC-13 (I <sub>e</sub> )  (110 Y) 0.55 A / 60 W (200 Y) 0.27 A / 60 W (400 Y) 0.15 A / 65 W (600 Y) 0.13 A / 65 W (725 Y) 0.55 A / 69 W (725 Y) 0.55 A	Rated Operational Current AC-15 (I <sub>e</sub> )	(220 / 240 V) 4 A (24 / 127 V) 6 A (400 / 440 V) 3 A (500 V) 2 A (690 V) 2 A
Rated Operational Current DC-13 (I <sub>e</sub> )  (110 V) 0.55 A , 60 W (200 V) 0.13 A , 65 W (800 V) 0.14 A , 60 W (125 V) 0.55 A , 69 W (24 V) 6 A , 144 W (250 V) 0.27 A , 68 W (48 V) 2.8 A , 1734 W (72 V) 1 A , 72 W  Rated Insulation Voltage (U <sub>p</sub> )  acc. to ILL/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 DC Operation 1400 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 NO Contact Opening 14 95 ms Between Coil Energization and NO Contact Opening 18 99 ms Between Coil Energization and NO Contact Closing 40 95 ms Between Coil Energization and NO Contact Opening 18 99 ms Between Coil Energization and NO Contact Closing 40 95 ms Between Coil Energization and NO Contact Closing 40 95 ms Between Coil Energization and NO Contact Closing 40 95 ms Between Coil Energization and NO Contact Closing 40 95 ms Between Coil Energization and NO Contact Closing 40 95 ms Between Coil Energization and NO Contact Closing 40 95 ms Flexible with Insulated Ferrule 17.2 0.75 2.5 mm² Flexible with Insulated Ferrule 17.2 0.75 2.5 mm² Flexible with Insulated Ferrule 17.2 0.75 2.5 mm² Flexible with Insulated Ferrule 2 x 0.75 1.5 mm² Rigid 17.2x 1 2.5 mm² Flexible with Insulated Ferrule 2 x 0.75 1.5 mm² Rigid 17.2x 1 2.5 mm² Flexible with Insulated Ferrule 2 x 0.75 1.5 mm² Rigid 17.2x 1 2.5 mm² Flexible with Insulated Ferrule 2 x 0.75 1.5 mm² Rigid 17.2x 1 2.5 mm² Flexible with Insulated Ferrule 2 x 0.75 1.5 mm² Rigid 17.2x 1 2.5 mm² Flexible with Insulated Ferrule 2 x 0.75 1.5 mm² Rigi	Rated Short-time Withstand Current (I <sub>cw</sub> )	
(220 V) 0.27 A / 60 W (400 V) 0.15 A / 60 W (600 V) 0.15 A / 65 W (600 V) 0.13 A / 65 W (600 V) 0.14 A / 60 W (250 V) 0.55 A / 69 W (24 V) 6 A / 144 W (250 V) 0.27 A / 60 W (28 V) 0.27 A / 68 W (48 V) 2.8 A / 134 W (72 V) 1 A / 72 W  Rated Insulation Voltage (U <sub>i</sub> )  acc. to IL/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  8000 cycles per hour  8ated Control Circuit Voltage (U <sub>c</sub> )  50 Hz 100 250 V 60 Hz 100 250 V DC Operation 100 250 V DC Opera	Maximum Electrical Switching Frequency	· ·
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  Between Coil De-energization and NC Contact Closing 13 98 ms  Between Coil De-energization and NC Contact Closing 13 98 ms  Between Coil De-energization and NC Contact Closing 13 98 ms  Between Coil De-energization and NC Contact Closing 13 98 ms  Between Coil De-energization a	Rated Operational Current DC-13 (I <sub>e</sub> )	(220 V) 0.27 A / 60 W (400 V) 0.15 A / 60 W (500 V) 0.13 A / 65 W (600 V) 0.1 A / 60 W (125 V) 0.55 A / 69 W (24 V) 6 A / 144 W (250 V) 0.27 A / 68 W (48 V) 2.8 A / 134 W
Maximum Mechanical Switching Frequency  6000 cycles per hour  8250 V 60 Hz 100 250 V 60 Hz 100 250 V 8360 Hz 100 250 V 8460 Hz 100 250 V 9560 Hz 100 250 W 9560 Hz 100 250 Mz	Rated Insulation Voltage (U <sub>i</sub> )	
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 NC Contact Opening 11 95 ms Between Coil Energization and NC Contact Opening 38 90 ms Between Coil Energization and NC Contact Opening 38 90 ms Between Coil Energization and NC Contact Opening 38 90 ms Between Coil Energization and NC Contact Closing 40 95 ms  Connecting Capacity Auxiliary Circuit  Flexible with Ferrule 1/2x 0.75 2.5 mm² Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Rigid 1/2x 1 2.5 mm² Flexible with Ferrule 1/2x 0.75 2.5 mm² Flexible with Insulated Ferrule 1x 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 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	Rated Impulse Withstand Voltage (U <sub>imp</sub> )	6 kV
60 Hz 100 250 V DC Operation 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 NC Contact Opening 11 95 ms Between Coil Energization and NC Contact Opening 38 90 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 mm² Flexible with Insulated Ferrule 2x 0.75 2.5 mm² Rigid 1/2x 1 2.5 mm² Flexible with Insulated Ferrule 1/2x 0.75 2.5 mm² Flexible with Insulated Ferrule 1/2x 0.75 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Rigid 1/2x 1 2.5 mm²  Wire Stripping Length  Auxiliary Circuit 10 mm Control 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	Maximum Mechanical Switching Frequency	6000 cycles per hour
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 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 mm² Flexible with Insulated Ferrule 2x 0.75 2.5 mm² Rigid 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 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Rigid 1/2x 1 2.5 mm²  Wire Stripping Length  Auxiliary Circuit 10 mm Control 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	Rated Control Circuit Voltage $(U_c)$	60 Hz 100 250 V
Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Rigid 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 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	Operate Time	Between Coil De-energization and NO Contact Opening 11 95 ms Between Coil Energization and NC Contact Opening 38 90 ms
Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Rigid 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	Connecting Capacity Auxiliary 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>
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	Connecting Capacity 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>
acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20	Wire Stripping Length	
Terminal Type Screw Terminals	Degree of Protection	
	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
Climatic Withstand	Category B according to IEC 60947-1 Annex Q
Maximum Operating Altitude Permissible	3000 m
Resistance to Vibrations acc. to IEC 60068-2-6	5 300 Hz 4 g closed position / 2 g open position
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

## Technical UL/CSA

Control Circuit 11 in·lb

NF22E-13 3

## Certificates and Declarations (Document Number)

ABS Certificate	ABS_15-GE1349500-PDA_90682247
BV Certificate	BV_2634H24899B0
CB Certificate	CB_SE-89845
CCC Certificate	CCC_2011010303465426
cUL Certificate	UL_20180227_E252354_2_1
Declaration of Conformity - CE	1SBD250005U1000
DNV Certificate	DNV-GL_TAE00001BV-3
DNV GL Certificate	DNV-GL_TAE00001BV-3
EAC Certificate	EAC_RU C-FR ME77 B01006
Environmental Information	1SBD250151E1000
GL Certificate	DNV-GL_TAE00001BV-3
GOST Certificate	GOST_POCCFR.ME77.B06804.pdf
Instructions and Manuals	1SBC101027M6801
LR Certificate	LRS_C1400038
RINA Certificate	RINA_ELE240318XG
RMRS Certificate	RMRS_1802702280
RoHS Information	1SBD251014E1000
UL Certificate	UL_20130206-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	0.27 kg
Package Level 1 EAN	3471523100138
Package Level 2 Units	54 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	14.58 kg
Package Level 3 Units	1296 piece

## Classifications

Object Classification Code	К
ETIM 4	EC000196 - Contactor relay
ETIM 5	EC000196 - Contactor relay
ETIM 6	EC000196 - Contactor relay
ETIM 7	EC000196 - Contactor relay
UNSPSC	39121500
E-Number (Sweden)	3211448