

**PRODUCT-DETAILS** 

## NF40E-13

# NF40E-13 100-250V50/60HZ-DC Contactor Relay



C l	l Information
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Extended Product Type	NF40E-13
Product ID	1SBH137001R1340
EAN	3471523100039

**Catalog Description** 

NF40E-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 24...500 V 50/60 Hz or 20...500 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 - 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	1SBC101027M6801
Manuals	

#### **Dimensions**

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

Number of Auxiliary Contacts NO Number of Auxiliary Contacts NC Standards IEC 60947-5-1 and EN 60947-5-1, UL 508, CSA C22.2 N°14 Rated Operational Correctional Correctional Free-air Conventional Free-air Thermal Current (lth) Rated Operational Current AC-15 (le) (500 V) 2.A (24 / 127 V) 6.A (262 / 240 V) 4.4 (260 / 240 V) 3.A Rated Short-time Withstand Current Low Withstand Current Low Workstein Frequency Switching Frequency Rated Operational Current DC-13 (le) (64 V) 2.8 A / 1.4 W (72 V) 1.4 / 72 W (10 V) 1.5 A / 6 W (25 V) 0.2 Y A / 6 W (25 V) 0.2	Product Net Weight	0.27 kg
Contacts NO		
Contacts NC	Number of Auxiliary Contacts NO	4
Rated Operational   Auxiliary Circuit 50 / 60 Hz	-	0
Workage	Standards	IEC 60947-5-1 and EN 60947-5-1, UL 508, CSA C22.2 N°14
Conventional Free-air   Thermal Current (Inh)	•	Auxiliary Circuit 690 V
Thermal Current (In)  Current AC-15 (Ie)  (500 V) 2 A  (24 ) 127 V) 6 A  (26 V) 127 V) 6 A  (27 V) 127 V) 6 A  (28 V) 127 V) 6 A  (28 V) 127 V) 6 A  (29 V) 127 V) 6 A  (20 V) 0 C) Collage (Ic)  Maximum Electrical  Switching Frequency  (DC-13) 900 cycles per hour  (AC-15) 1200 cycles per hour  (AB V) 2 A A / 134 W  (AB V) 2 A A / 134 W  (AB V) 2 A A / 134 W  (AB V) 2 A A / 16 W  (AB V) 2 A A / 60 W  (AB V) 0 2 A A / 68 W  (AB V) 2 A A	Rated Frequency (f)	Auxiliary Circuit 50 / 60 Hz
Rated Operational (500 V) 2 A (509 V) 2 A (500 V) A	Conventional Free-air	acc. to IEC 60947-5-1, q = 40 °C 16 A
Current AC-15 (le)  (590 V) 2 A (24 / 127 V) (25 / 127 V) (26 / 127 V) (26 / 127 V) (27 / 127 V)	Thermal Current (I <sub>th</sub> )	
Withstand Current Low Voltage (lcw)  Maximum Electrical  Maximum Electrical  (AC-15) 1200 cycles per hour  Switching Frequency  (DC-13) 900 cycles per hour  (Current DC-13 (le))  (AS V) 6 A / 144 W  (T2 V) 1 A / 72 W  (ILD V) 0.55 A / 60 W  (L25 V) 0.55 A / 60 W  (L25 V) 0.55 A / 60 W  (L25 V) 0.57 A / 60 W  (20 V) 0.27 A / 60 W  (20 V) 0.21 A / 60 W	Rated Operational Current AC-15 (I <sub>e</sub> )	(690 V) 2 A (24 / 127 V) 6 A (220 / 240 V) 4 A
Switching Frequency         (DC-13) 900 cycles per hour           Rated Operational         (24 Y) 6 A / 144 W           Current DC-13 (le)         (48 Y) 2.8 A / 134 W           (10 Y) 0.55 A / 60 W         (125 Y) 0.55 A / 69 W           (220 Y) 0.27 A / 60 W         (250 Y) 0.27 A / 60 W           (250 Y) 0.27 A / 60 W         (250 Y) 0.27 A / 60 W           (500 Y) 0.13 A / 65 W         (500 Y) 0.13 A / 65 W           (500 Y) 0.13 A / 65 W         (500 Y) 0.14 A / 60 W           (600 Y) 0.14 A / 60 W         (600 Y) 0.14 A / 60 W           (Wi)         acc. to IEC 60947-5-1 and VDE 0110 (Gr. C) 690 V           (Ut)         acc. to IEC 60947-5-1 and VDE 0110 (Gr. C) 690 V           Withstand Voltage (Uimp         6 kV           Withstand Voltage (Uimp         5 Hz 100 250 V           Namium Mechanical         5 Hz 100 250 V           Woltage (U-c)         9 C Operation 100 250 V           Voltage (U-c)         9 C Operation 100 250 V           Operate Time         Between Coil De-energization and NC Contact Opening 11 95 ms           Between Coil De-energization and NC Contact Opening 11 95 ms         95 ms           Mounting on DIN Rail         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 supplied)	Rated Short-time Withstand Current Low Voltage (I <sub>cw</sub> )	
Current DC-13 (le)  (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 / 60 W (125 V) 0.27 A / 60 W (125 V) 0.25 A / 60 W (125 V)	Maximum Electrical Switching Frequency	
(Ui) acc. to UL/CSA 600 V Rated Impulse	Rated Operational Current DC-13 (I <sub>e</sub> )	(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
Withstand Voltage (U <sub>imp</sub> )  Maximum Mechanical 6000 cycles per hour Switching Frequency  Rated Control Circuit 50 Hz 100 250 V Voltage (U <sub>c</sub> ) 60 Hz 100 250 V Voltage (U <sub>c</sub> ) DC Operation 100 250 V DC Operation 100 250 V DC 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 Closing 40 95 ms Between Coil Energization and NC Contact Closing 40 95 ms Between Coil Energization and NC Contact Closing 40 95 ms Mounting on DIN Rail TH35-15 (35 x 7.5 mm Mounting Rail) acc. to IEC 60715 TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715 Mounting by Screws (not 2 x M4 screws placed diagonally supplied)  Connecting Capacity Flexible with Ferrule 1/2x 0.75 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Rigid 1/2x 1 2.5 mm² Connecting Capacity Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Rigid 1/2x 1 2.5 mm² Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Rigid 1/2x 1 2.5 mm² Rig	Rated Insulation Voltage (U <sub>i</sub> )	
Maximum Mechanical 6000 cycles per hour Switching Frequency  Rated Control Circuit 50 Hz 100 250 V Voltage (Uc) 60 Hz 100 250 V DC Operation 11 95 ms Between Coil De-energization and NC Contact Opening 11 95 ms Between Coil Energization and NC Contact Opening 138 90 ms Between Coil Energization and NC Contact Closing 40 95 ms Between Coil Energization and NC Contact Closing 40 95 ms Between Coil Energization and NC Contact Closing 40 95 ms Between Coil Energization and NC Contact Closing 40 95 ms Between Coil Energization and NC Contact Closing 40 95 ms Between Coil Energization and NC Contact Closing 40 95 ms Between Coil Energization and NC Contact Opening 11 95 ms Between Coil Energization and NC Contact Opening 12 ms 95 ms Between Coil Energization and NC Contact Opening 12 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95 ms Between Coil Energization and NC Contact Opening 13 ms 95	Rated Impulse Withstand Voltage (U <sub>imp</sub> )	6 kV
Voltage (Uc)  Coperation 100 250 V DC Operation 100 250 V Operate Time  Between Coil De-energization and NC Contact Closing 13 98 ms Between Coil Energization and NC 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  TH35-7.5 (35 x 7.5 mm Mounting Rail) acc. to IEC 60715 TH35-15 (35 x 15 mm	Maximum Mechanical Switching Frequency	6000 cycles per hour
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 Closing 40 95 ms Mounting on DIN Rail  TH35-7.5 (35 x 7.5 mm Mounting Rail) acc. to IEC 60715 TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715 TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715  Mounting by Screws (not 2 x M4 screws placed diagonally supplied)  Connecting Capacity  Flexible with Ferrule 1/2x 0.75 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 2.5 mm² Flexible with Insulated Ferrule 1/2x 0.75 2.5 mm² Connecting Capacity  Flexible with 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 1.5 mm² Rigid 1/2x 1 2.5 mm² Rigid 1/2x 1 2.5 mm² Auxiliary Circuit 10 mm	Rated Control Circuit	50 Hz 100 250 V
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 NC Contact Closing 40 95 ms Mounting on DIN Rail  TH35-7.5 (35 x 7.5 mm Mounting Rail) acc. to IEC 60715 TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715 TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715  Mounting by Screws (not 2 x M4 screws placed diagonally supplied)  Connecting Capacity Flexible with Ferrule 1/2x 0.75 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Rigid 1/2x 1 2.5 mm² Connecting Capacity 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 Rigid 1/2x 1 2.5 mm² Wire Stripping Length  Auxiliary Circuit 10 mm	Voltage (U <sub>c</sub> )	
TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715  Mounting by Screws (not 2 x M4 screws placed diagonally supplied)  Connecting Capacity Flexible with Ferrule 1/2x 0.75 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Rigid 1/2x 1 2.5 mm² Rigid 1/2x 1 2.5 mm² Connecting Capacity 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 Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Rigid 1/2x 1 2.5 mm²  Wire Stripping Length Auxiliary Circuit 10 mm	Operate Time	Between Coil De-energization and NO Contact Opening 11 95 ms Between Coil Energization and NC Contact Opening 38 90 ms
supplied)  Connecting Capacity Auxiliary Circuit Flexible with Insulated Ferrule 1/2x 0.75 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Rigid 1/2x 1 2.5 mm²  Connecting Capacity Flexible with Ferrule 1/2x 0.75 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 2x 0.75 1.5 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	Mounting on DIN Rail	` ,
Auxiliary Circuit  Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Flexible with Insulated Ferrule 1x 0.75 2.5 mm² Rigid 1/2x 1 2.5 mm²  Connecting Capacity  Flexible with Ferrule 1/2x 0.75 2.5 mm² Flexible with Insulated 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 Flexible with Insulated Ferrule 2x 0.75 1.5 mm² Rigid 1/2x 1 2.5 mm²  Wire Stripping Length  Auxiliary Circuit 10 mm	<del> </del>	2 x M4 screws placed diagonally
Control Circuit  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		Flexible with Insulated Ferrule 2x $0.75 \dots 1.5 \text{ mm}^2$ Flexible with Insulated Ferrule 1x $0.75 \dots 2.5 \text{ mm}^2$
		Flexible with Insulated Ferrule 1x $0.75\dots 2.5\ mm^2$ Flexible with Insulated Ferrule 2x $0.75\dots 1.5\ mm^2$
	Wire Stripping Length	•

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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

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 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
RoHS Status	Following FLI Directive 2011/65/FLI

Certificates and	Declarations	(Document I	Number)

ABS Certificate	ABS_20-2060694-PDA
BV Certificate	BV_2634H24899B0
CB Certificate	CB_SE-93051M2
CCC Certificate	2020980303000185
CQC Certificate	CQC2019010303267993
cUL Certificate	UL_20180227_E252354_2_1
Declaration of Conformity - CCC	CQC2011010303465426
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 B03544
Environmental Information	1SBD250151E1000 1SBC100222M0201
GL Certificate	DNV-GL_TAE00001BV-3
GOST Certificate	GOST_POCCFR.ME77.B06804.pdf
Instructions and Manuals	1SBC101027M6801
KC Certificate	KC-HW02016-21031A
LR Certificate	LRS_C1400038
RINA Certificate	RINA_ELE240318XG
RMRS Certificate	RMRS_1802702280
RoHS Information	1SBD250005U1000
UL Certificate	UL_20130206-E252354-2-1
UL Listing Card	UL_E252354

### **Container Information**

Package Level 1 Units	box 1 piece
rackage Level 1 Offics	box i piece

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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	3471523100039
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	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
eClass	V11.0 : 27371003
UNSPSC	39121500
E-Number (Finland)	3706415
E-Number (Sweden)	3211456

## Categories

 $\textbf{Low Voltage Products and Systems} \rightarrow \textbf{Control Products} \rightarrow \textbf{Contactors} \rightarrow \textbf{Block Contactors}$ 

