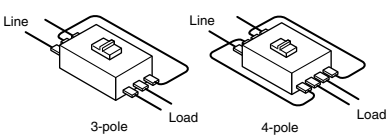
NF-S (Standard class)

Frame (A)				30		32		50			60			63		
Model				NF32-SV				NF63-SV								
Image																
Rated current In (A) Rated ambient temperture 40°C (45°C for marine use)				3 4 (5) 6 10 15 16 20 25 (30)		32		3 4 (5) 6 10 (15) 16 20 25 (30) 32 40 50			(60)			63		
Number of poles				2	3	2	3	2	3	4	2	3	4	2	3	4
Rated insulation voltage Ui (V)				600		600		600			600			600		
Rated short-circuit breaking capacities (kA)	IEC 60947-2 EN 60947-2 (Icu/Ics)	AC	690V	–		–		–			–			–		
			500V	2.5/2.5		2.5/2.5		7.5/7.5			7.5/7.5			7.5/7.5		
			440V	2.5/2.5		2.5/2.5		7.5/7.5			7.5/7.5			7.5/7.5		
			415V	2.5/2.5		2.5/2.5		7.5/7.5			7.5/7.5			7.5/7.5		
			400V	5/5		5/5		7.5/7.5			7.5/7.5			7.5/7.5		
			380V	5/5		5/5		7.5/7.5			7.5/7.5			7.5/7.5		
			230V	7.5/7.5		7.5/7.5		15/15			15/15			15/15		
			200V	7.5/7.5		7.5/7.5		15/15			15/15			15/15		
		DC	250V	2.5/2.5 (*5)		2.5/2.5 (*5)		7.5/7.5 (*5)			7.5/7.5 (*5)			7.5/7.5 (*5)		
Rated impulse withstand voltage Uimp (kV)				8		8		8			8			8		
Current (*1)				AC/DC compatible		AC/DC compatible		AC/DC compatible			AC/DC compatible			AC/DC compatible		
Suitability for isolation				Yes		Yes		Yes			Yes			Yes		
Reverse connection				Available		Available		Available			Available			Available		
Number of operating cycles	Without current			10,000		10,000		15,000			15,000			15,000		
	With current (440VAC)			6,000		6,000		8,000			8,000			8,000		
Utilization category				A		A		A			A			A		
Pollution degree				3		3		3			3			3		
EMC environment condition (environment A or B)				Not Applicable		Not Applicable		Not Applicable			Not Applicable			Not Applicable		
Overall dimensions (mm)	a			50	75	50	75	50	75	100	50	75	100	50	75	100
	b			130		130		130			130			130		
	c			68		68		68			68			68		
	ca			90		90		90			90			90		
Mass of front-face type (kg)				0.45	0.65	0.45	0.65	0.5	0.7	0.9	0.55	0.75	1.0	0.55	0.75	1.0
Installation and connections	Front connection		(F)	Page				●Screw terminal			●Screw terminal			●Screw terminal		
	Solderless (BOX) terminal		(SL)					–			–			–		
	Rear		(B)	98				●Bar stud			●Round stud			●Round stud		
	Plug-in		(PM)					●			●			●		
Cassette-type accessories	Alarm switch		(AL)	115				● (*4)		●	● (*4)		●	● (*4)		●
	Auxiliary switch		(AX)					● (*4)		●	● (*4)		●	● (*4)		●
	Shunt trip		(SHT)					● (*4)		●	● (*4)		●	● (*4)		●
	Undervoltage trip		(UVT)					● (*4)		●	● (*4)		●	● (*4)		●
	With lead-wire terminal block		(SLT)	120				●		●	●		●	●		●
	Pre-alarm		(PAL)	122				–			–			–		
External accessories	Enclosure	Closed	(S)	137				●		–	●		–	●		–
		Dustproof	(I)					●		–	●		–	●		–
		Waterproof	(W)					–	●	–	–	●	–	–	●	–
	Electrical operation device		(NFM)	140				–			–			–		
	Mechanical interlock (MI) (*7)	Panel mounting		136				●		●	●		●	●		●
		Breaker mounting						●		–	●		–	●		–
	Handle lock device	LC		135				●			●			●		
		HL						●			●			●		
		HL-S						●			●			●		
	External operating handle	(F)		123				●			●			●		
		(V)						●			●			●		
	Terminal cover (TC-L, TC-S, TTC, BTC, PTC)			128				●		●	●		●	●		●
	Rear stud		(B-ST)	98				●			●			●		
	Plug-in		(PM)					●		●	●		●	●		●
	IEC 35mm rail mounting adapters			143				●		–	●		–	●		–
CE marking				Self-declaration		Self-declaration		Self-declaration			Self-declaration			Self-declaration		
CCC recognition				Recognized		Recognized		Recognized			Recognized			Recognized		
Marine use approval (☆:Certified) (NK, LR, ABS, DNV·GL)				☆		☆		☆		–	☆		–	☆		–
Automatic tripping device				Thermal-magnetic		Thermal-magnetic		Thermal-magnetic			Thermal-magnetic			Thermal-magnetic		
Trip button				Equipped		Equipped		Equipped			Equipped			Equipped		
Page of Characteristics and dimensions				148				148								

Notes: *1 The operating characteristics are different between AC and DC.
*2 For 100A of rated current, NK rating is not shown.
*3 For 3-pole product, connect cables/busbars to any two terminals, and for 4-pole product, connect cables/busbars to any two terminals except N-pole.
When connected cables/busbars as shown on the right, maximum of 400VDC can be applied to 3-pole product and maximum of 500VDC to 4-pole product.
(For NF250-SV model, connected as shown on the right, maximum of 500VDC can be applied to 3-pole product and maximum of 600VDC to 4-pole product.)
*4 This accessory is cassette type and can be installed by customer. The frame size up to 250A can be closely installed, except for those with UVT.
*5 For 3-pole product, connect cables/busbars to any two terminals, and for 4-pole product, connect cables/busbars to any two terminals except N-pole.
Not available for use with connection as shown on the right.
*6 Place an order with circuit breaker.
*7 No isolation function except 400A to 800A frame.

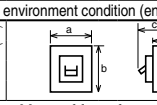


NF-S (Standard class)

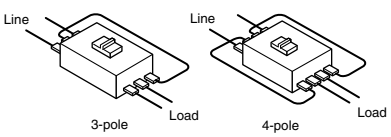
100			125			125			125		160			225			250		
NF125-SV						NF125-SGV			NF125-SEV		NF160-SGV			NF250-SV					
																			
(15) 16 20 (30) 32 40 50 (60) 63 (75) 80 100			125			16-20 20-25 25-32 32-40 35-40-50 45-50-63 53-63-80 70-80-100 90-100-125			16-19 21-32(by 1.5A) 32-47 54-63(by 3A) 63-81 88-106 113-125(by 6A)		125-160			(100) 125 150 160 175 200 225 (*2)			250		
2	3	4	2	3	4	2	3	4	3	4	2	3	4	2	3	4	2	3	4
690			690			690			690		690			690			690		
8/8			8/8			8/8			8/8		8/8			8/8			8/8		
18/18			18/18			30/30			30/30		30/30			30/30			30/30		
25/25			25/25			36/36			36/36		36/36			36/36			36/36		
30/30			30/30			36/36			36/36		36/36			36/36			36/36		
30/30			30/30			36/36			36/36		36/36			36/36			36/36		
30/30			30/30			36/36			36/36		36/36			36/36			36/36		
50/50			50/50			85/85			85/85		85/85			85/85			85/85		
50/50			50/50			85/85			85/85		85/85			85/85			85/85		
40/40 (*3)			40/40 (*3)			20/20 (300V) (*3)			–		20/20 (300V) (*3)			20/20 (300V) (*3)			20/20 (300V) (*3)		
8			8			8			8		8			8			8		
AC/DC compatible			AC/DC compatible			AC/DC compatible			AC		AC/DC compatible			AC/DC compatible (*1)			AC/DC compatible (*1)		
Yes			Yes			Yes			Yes		Yes			Yes			Yes		
Available			Available			Available			Available		Available			Available			Available		
25,000			25,000			50,000			25,000		40,000			25,000			25,000		
10,000			10,000			30,000			10,000		15,000			10,000			10,000		
A			A			A			A		A			A			A		
3			3			3			3		3			3			3		
Not Applicable			Not Applicable			Not Applicable			A		Not Applicable			Not Applicable			Not Applicable		
60	90	120	60	90	120	105		140	105	140	105		140	105		140	105		140
130			130			165			165		165			165			165		
68			68			68			68		68			68			68		
90			90			92			92		92			92			92		
0.7	1.0	1.3	0.7	1.0	1.3	1.4	1.6	2.0	1.7	2.2	1.4	1.6	2.0	1.4	1.6	2.0	1.4	1.6	2.0
●Screw terminal			●Screw terminal			●Screw terminal			●Screw terminal		●Screw terminal			●Screw terminal			●Screw terminal		
●			●			●			●	●	●			●		●	●		●
●Bar stud			●Bar stud			●Bar stud			●Bar stud	●Bar stud	●Bar stud			●Bar stud			●Bar stud		
●		●	●		●	●			●	●	●			●		●	●		●
● (*4)		●	● (*4)		●	● (*4)		●	● (*4)	●	● (*4)		●	● (*4)		●	● (*4)		●
● (*4)		●	● (*4)		●	● (*4)		●	● (*4)	●	● (*4)		●	● (*4)		●	● (*4)		●
● (*4)		●	● (*4)		●	● (*4)		●	● (*4)	●	● (*4)		●	● (*4)		●	● (*4)		●
● (*4)		●	● (*4)		●	● (*4)		●	● (*4)	●	● (*4)		●	● (*4)		●	● (*4)		●
●		●	●		●	●			●	●	●			●		●	●		●
–			–			–			●		–			–			–		
●		–	●		–	●		–	●	–	●		–	●		–	●		–
●		–	●		–	●		–	●	–	●		–	●		–	●		–
–	●	–	–	●	–	●		–	●	–	●		–	●		–	●		–
–	●		–	●		●			●		●			●			●		
●		●	●		●	●			●	●	●			●		●	●		●
●		–	●		–	●			●	–	●			●		–	●		–
●			●			●			●		●			●			●		
●			●			●			●		●			●			●		
●			●			●			●		●			●			●		
●			●			●			●		●			●			●		
–	●	●	–	●		●			●		●			●			●		
●		●	●		●	●			●	●	●			●		●	●		●
●		●	●		●	●			●	●	●			●		●	●		●
●		●	●		●	●			●	●	●			●		●	●		●
–			–			–			–		–			–			–		
Self-declaration			Self-declaration			Self-declaration			Self-declaration		Self-declaration			TÜV approval		Self-declaration	TÜV approval		Self-declaration
Recognized			Recognized			Recognized			Recognized		Recognized			Recognized			Recognized		
☆		–	☆		–	☆ (LR, ABS, DNV·GL)		–	☆ (LR, ABS, DNV·GL)	–	☆ (LR, ABS, DNV·GL)		–	☆		–	☆		–
Thermal-magnetic			Thermal-magnetic			Thermal-magnetic			Electronic (effective value detection)		Thermal-magnetic			Thermal-magnetic			Thermal-magnetic		
Equipped			Equipped			Equipped			Equipped		Equipped			Equipped			Equipped		
150						158			160		158			154					

Remarks: 1. Products with rated current parenthesized are produced when an order is placed.
2. Specify "P-LT" when selecting plug-in type with lead-wire terminal block.
3. The circuit breaker has the rated short-circuit breaking capacity specified in the shaded cells.

NF-S (Standard class)

Frame (A)				250		250		400			400		600			630		
Model				NF250-SGV		NF250-SEV		NF400-SW			NF400-SEW		NF630-SW					
Image																		
Rated current In (A) Rated ambient temperture 40°C (45°C for marine use)				125-160 140-160-200 175-200-250		80-160(by 8A) 125-250(by 12.5A)		250 300 350 400			Adjustable 200 225 250 300 350 400		500 600			630		
Number of poles				2	3	3	4	2	3	4	3	4	2	3	4	2	3	4
Rated insulation voltage Ui (V)				690		690		690			690		690			690		
Rated short-circuit breaking capacities (kA)	IEC 60947-2 EN 60947-2 (Icu/Ics)	AC	690V	8/8		8/8		10/10			10/10		10/10			10/10		
			500V	30/30		30/30		30/30			30/30		30/30			30/30		
			440V	36/36		36/36		42/42			42/42		42/42			42/42		
			415V	36/36		36/36		45/45			50/50		50/50			50/50		
			400V	36/36		36/36		45/45			50/50		50/50			50/50		
			380V	36/36		36/36		50/50			50/50		50/50			50/50		
			230V	85/85		85/85		85/85			85/85		85/85			85/85		
			200V	85/85		85/85		85/85			85/85		85/85			85/85		
		DC	250V	20/20 (300V) (*2)		–		40/40 (*2)			–		40/40 (*2)			40/40 (*2)		
Rated impulse withstand voltage Uimp (kV)				8		8		8			8		8			8		
Current				AC/DC compatible		AC		AC/DC compatible			AC		AC/DC compatible			AC/DC compatible		
Suitability for isolation				Yes		Yes		Yes			Yes		Yes			Yes		
Reverse connection				Available		Available		Available			Available		Available			Available		
Number of operating cycles	Without current			25,000		25,000		6,000			6,000		6,000			6,000		
	With current (440VAC)			10,000		10,000		1,000			1,000		1,000			1,000		
Utilization category				A		A		A			B		A			A		
Rated short time with stand current Icw (kA) at 0.25s				–		–		–			5		–			–		
Pollution degree				3		3		3			3		3			3		
EMC environment condition (environment A or B)				Not Applicable		A		Not Applicable			A		Not Applicable			Not Applicable		
Overal dimensions (mm)			a	105	140	105	140	140		185	140	185	140		185	140		185
			b	165		165		257			257		257			257		
			c	68		68		103			103		103			103		
			ca	92		92		155			155		155			155		
Mass of front-face type (kg)				1.4	1.6	1.7	2.2	4.6	5.2	6.8	6.0	7.6	5.4	6.2	8.0	5.4	6.2	8.0
Installation and connections	Front connection	(F)	Page	●		●Screw terminal	●Screw terminal	●Busbar terminal			●Busbar terminal		●Busbar terminal			●Busbar terminal		
	Solderless (BOX) terminal	(SL)		●		●	●	–	–	–	–	–	–	–	–	–	–	–
	Rear	(B)	98	●Bar stud		●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud
	Plug-in	(PM)		●		●	●	●		●	●	●	●		●	●		●
Cassette-type accessories	Alarm switch	(AL)	115	● (*3)	●	● (*3)	●	● (*3)		●	● (*3)	●	● (*3)		●	● (*3)		●
	Auxiliary switch	(AX)		● (*3)	●	● (*3)	●	● (*3)		●	● (*3)	●	● (*3)		●	● (*3)		●
	Shunt trip	(SHT)		● (*3)	●	● (*3)	●	● (*3)		●	● (*3)	●	● (*3)		●	● (*3)		●
	Undervoltage trip	(UVT)		● (*3)	●	● (*3)	●	●		●	●	●	●		●	●		●
	With lead-wire terminal block	(SLT)	120	●		●	●	●		●	●	●	●		●	●		●
	Pre-alarm	(PAL)	122	–		●		–			● (*5)		–			–		
External accessories	Enclosure	Closed (S)	137	●	–	●	–	–			–		–			–		
		Dustproof (I)		●	–	●	–	●		–	●	–	●		–	●		–
		Waterproof (W)		●	–	●	–	●		–	●	–	●		–	●		–
	Electrical operation device	(NFM)	140	●		●		● (*6)			● (*6)		● (*6)			● (*6)		
	Mechanical interlock (MI) (*7)	Panel mounting	136	●		●	●	●		●	●	●	●		●	●		●
		Breaker mounting		●		●	–	●		–	●	–	●		–	●		–
	Handle lock device	LC	135	●		●		–			–		–			–		
		HL		●		●		●			●		●			●		
		HL-S		●		●		●			●		●			●		
	External operating handle	(F)	123	●		●		●			●		●			●		
		(V)		●		●		●			●		●			●		
	Terminal cover (TC-L, TC-S, TTC, BTC, PTC)		128	●		●	●	●		●	●	●	●		●	●		●
	Rear stud	(B-ST)	98	●		●	●	●		●	●		●	●	●	●	●	●
	Plug-in	(PM)		●		●	●	●	●	●	●	●	●	●	●	●	●	●
	IEC 35mm rail mounting adapters		143	–		–		–			–		–			–		
CE marking				Self-declaration		Self-declaration		Self-declaration			Self-declaration		Self-declaration			Self-declaration		
CCC recognition				Recognized		Recognized		Recognized			Recognized		Recognized			Recognized		
Marine use approval (☆:Certified) (NK, LR, ABS, DNV·GL)				☆ (LR, ABS, DNV·GL)	–	☆ (LR, ABS, DNV·GL)	–	☆		–	☆	–	☆		–	☆		–
Automatic tripping device				Thermal-magnetic		Electronic (effective value detection)		Thermal-magnetic			Electronic (effective value detection)		Thermal-magnetic			Thermal-magnetic		
Trip button				Equipped		Equipped		Equipped			Equipped		Equipped			Equipped		
Page of Characteristics and dimensions				158		160		162			164		168					

Notes: *1 The operating characteristics are different between AC and DC.
*2 For 3-pole product, connect cables/busbars to any two terminals, and for 4-pole product, connect cables/busbars to any two terminals except N-pole.
When connected cables/busbars as shown on the right, maximum of 400VDC can be applied to 3-pole product and maximum of 500VDC to 4-pole product.
*3 This accessory is cassette type and can be installed by customer. The frame size up to 250A can be closely installed, except for those with UVT.
*4 For 3-pole product, connect cables/busbars to any two terminals, and for 4-pole product, connect cables/busbars to any two terminals except N-pole.
Not available for use with connection as shown on the right.
*5 Solid state relay output is available as an option. Specify if this contact output is required. Lead-wire terminal block (SLT) is equipped as standard. AS for flush plate type, an outline differs from a standard.
*6 Place an order with circuit breaker.
*7 No isolation function except 400A to 800A frame.



NF-S (Standard class)

630		800		800	1000		1250		1200	1600		1600
NF630-SEW		NF800-SEW		NF800-SDW	NF1000-SEW		NF1250-SEW		NF1250-SDW	NF1600-SEW		NF1600-SDW
												
Adjustable 300 350 400 500 600 630		Adjustable 400 450 500 600 700 800		(700) 800	Adjustable 500 600 700 800 900 1000		Adjustable 600 700 800 1000 1200 1250		1000 1250	Adjustable 800 1000 1200 1400 1500 1600		1600
3	4	3	4	2	3	4	3	4	2	3	4	2
690		690		690	690		690		690	690		690
10/10		10/10		–	25/13		25/13		–	25/13		–
30/30		30/30		–	65/33		65/33		–	65/33		–
42/42		42/42		–	85/43		85/43		–	85/43		–
50/50		50/50		–	85/43		85/43		–	85/43		–
50/50		50/50		–	85/43		85/43		–	85/43		–
50/50		50/50		–	85/43		85/43		–	85/43		–
85/85		85/85		–	125/63		125/63		–	125/63		–
85/85		85/85		–	125/63		125/63		–	125/63		–
–		–		40/40	–		–		40/20	–		40/20
8		8		8	8		8		8	8		8
AC		AC		DC	AC		AC		DC	AC		DC
Yes		Yes		Yes	Yes		Yes		Yes	Yes		Yes
Available		Available		Available	Available		Available		Available	Available		Available
6,000		4,000		4,000	3,000		3,000		3,000	3,000		3,000
1,000		500		500	500		500		500	500		500
B		B		A	B		B		A	B		A
7.6		9.6		–	20 at 0.1		20 at 0.1		–	20 at 0.1		–
3		3		3	3		3		3	3		3
A		A		Not Applicable	A		A		Not Applicable	A		Not Applicable
140	185	210	280	210	210	280	210	280	210	210	280	210
257		275		275	406		406		406	406		406
103		103		103	140		140		140	140		140
155		155		155	190		190		190	190		190
6.5	8.3	10.9	14.2	9.0	23.5	30.7	23.5	30.7	22.0	34.5	41.2	32.0
●Busbar terminal		●Busbar terminal		●Busbar terminal	●Busbar terminal	●Busbar terminal	●Busbar terminal	●Busbar terminal	●Busbar terminal	●Busbar terminal	●Busbar terminal	●Busbar terminal
–	–	–	–	–	–	–	–	–	–	–		–
●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud
●	●	●	●	●	●	–	●	–	●	–		–
● (*3)	●	● (*3)	●	●	●	●	●	●	●	●	●	●
● (*3)	●	● (*3)	●	●	●	●	●	●	●	●	●	●
● (*3)	●	● (*3)	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●
● (*5)		● (*5)		–	● (*5)		● (*5)		–	● (*5)		–
–		–		–	–		–		–	–		–
●	–	●	–	●	–	–	–	–	–	–		–
●	–	●	–	●	–	–	–	–	–	–		–
● (*6)		● (*6)		●(*6)	● (*6)		● (*6)		● (*6)	● (*6)		● (*6)
●	●	●	●	●	●		●		●	●		●
●	●	●	●	●	–		–		–	–		–
–		–		–	–		–		–	–		–
●		●		●	● (*6)		● (*6)		● (*6)	● (*6)		● (*6)
●		●		●	–		–		–	–		–
●		●		●	●	●	●	●	●	●	●	●
●		●		●	–		–		–	–		–
●	●	●	●	●	●		●		●	–		–
●	●	●	●	●	–		–		–	–		–
●	●	●		●	●		●		●	–		–
–		–		–	–		–		–	–		–
Self-declaration		Self-declaration		Self-declaration	Self-declaration		Self-declaration		Self-declaration	Self-declaration		Self-declaration
Recognized		Recognized		Recognized	Recognized		Recognized		–	Recognized		–
☆	–	☆	–	–	☆	–	☆	–	–	–		–
Electronic (effective value detection)		Electronic (effective value detection)		Thermal-magnetic	Electronic (effective value detection)		Electronic (effective value detection)		Thermal-magnetic	Electronic (effective value detection)		magnetic
Equipped		Equipped		Equipped	Equipped		Equipped		Equipped	Equipped		Equipped
170		172		174	178		178		180	182		184

Remarks: 1. Products with rated current parenthesized are produced when an order is placed.
2. Specify “P-LT” when selecting plug-in type with lead-wire terminal block.
3. The circuit breaker has the rated short-circuit breaking capacity specified in the shaded cells.

2

1 Detailed Specifications