

NV-S (Standard class) Harmonic Surge Ready

Frame (A)		30	32	50	60	63	100	125	125								
Model		NV32-SV			NV63-SV			NV125-SV		NV125-SEV							
Image																	
Rated current In (A)		(5) 6 10 (15)	(32)	(5) (10) (15) 16 20	(60)	63	(15) 16 20 (30) 32 40 50	125		63-81 88-106							
Rated ambient temperature 40°C		16 20 25 (30)		25 (30) 32 40 50			(60) 63 (75) 80 100 (*3)			113-125(by 6A)							
Number of poles		3			3			3	4	3	4						
Phase line (*1)		3φ3W, 1φ3W, 1φ2W		3φ3W, 1φ3W, 1φ2W	3φ3W, 1φ3W, 1φ2W	3φ3W, 1φ3W, 1φ2W	3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ2W	3φ4W					
Rated operational voltage Ue (V) (*2) AC		100-440			100-440			100-440	200-440	200-440	100-440						
High-speed type	Rated current sensitivity (mA)	30,100/200/500 selectable			30,100/200/500 selectable			30,100/200/500 selectable			30,100/200/500 selectable		(30),100/200/500 selectable				
	Max. operating time (s)	at IΔn 0.1 at 5IΔn 0.04			0.1 0.04			0.1 0.04			0.1 0.04		0.1 0.04				
Time-delay type	Rated current sensitivity (mA)	-			-			(100/200/500selectable)			(100/200/500selectable)		(100/200/500selectable)				
	Max. operating time (s) (*4)	-			-			(0.45/1.0/2.0selectable)			(0.45/1.0/2.0selectable)		(0.45/1.0/2.0selectable)				
Internal non-operating (s) (or more)		-			-			(0.1/0.5/1.0)			(0.1/0.5/1.0)		(0.1/0.5/1.0)				
Earth leakage protection characteristic		Type AC			Type AC			Type AC		Type AC							
Earth leakage indication system		Mechanical type (button)			Mechanical type (button)			Mechanical type (button)		Mechanical type (button)							
Rated short-circuit breaking capacities (kA)	IEC 60947-2 EN 60947-2 (Icu/Ics)	AC	440V	5/5	5/5	7.5/7.5	7.5/7.5	7.5/7.5	25/25	25/25	36/36	36/36					
			415V	5/5	5/5	7.5/7.5	7.5/7.5	7.5/7.5	30/30	30/30	36/36	36/36					
			400V	5/5	5/5	7.5/7.5	7.5/7.5	7.5/7.5	30/30	30/30	36/36	36/36					
			230V	10/10	10/10	15/15	15/15	15/15	50/50	50/50	85/85	85/85					
			200V	10/10	10/10	15/15	15/15	15/15	50/50	50/50	85/85	85/85					
			100V	10/10	10/10	15/15	15/15	15/15	50/50	50/50	85/85	85/85					
Rated impulse withstand voltage Uimp (kV)		6			6			6		6							
Current		AC			AC			AC		AC							
Suitability for isolation		Yes			Yes			Yes		Yes							
Reverse connection (below 230VAC)		Available			Available			Available		Available							
Number of operating cycles	Without current	10,000			15,000			15,000		25,000		25,000					
	With current	6,000			8,000			8,000		10,000		10,000					
Utilization category		A			A			A		A							
Rated short time withstand current Icu (kA) at 0.25s		-			-			-		-							
Pollution degree		2			2			2		2							
EMC environment condition (environment A or B)		A			A			A		A							
Overall dimensions (mm)		a	75	75	75	75	75	90	120	90	120	105	140				
		b	130	130	130	130	130	130	130	130	130	165					
		c	68	68	68	68	68	68	68	68	68	68					
		ca	90	90	90	90	90	90	90	90	90	92					
Mass of front-face type (kg)		0.75			0.75			0.8		0.8		1.1	1.4	1.1	1.4	1.9	2.5
Installation and connections	Front connection (F)	●Screw terminal			●Screw terminal			●Screw terminal		●Screw terminal		●Screw terminal					
	Solderless (BOX) terminal (SL)	-			-			-		-		-					
	Rear (B)	●Round stud			●Round stud			●Round stud		●Bar stud		●Bar stud					
	Plug-in (PM)	●			●			●		●		●					
Cassette-type accessories	Alarm switch (AL)	●(*5)			●(*5)			●(*5)		●(*5)		●(*5)					
	Auxiliary switch (AX)	●(*5)			●(*5)			●(*5)		●(*5)		●(*5)					
	Shunt trip (SHT)	●(*5)			●(*5)			●(*5)		●(*5)		●(*5)					
	Undervoltage trip (UVT)	●(*5)			●(*5)			●(*5)		●(*5)		●(*5)					
	Earth leakage alarm switch (EAL)	-			-			-		-		-					
	With lead-wire terminal block (SLT)	●			●			●		●		●					
Test button module (TBM)	●(*6)			●(*6)			●(*6)		●(*6)		●(*6)						
External accessories	Enclosure	Closed (S)	-			-			-		-		-				
		Dustproof (I)	-			-			-		-		-				
		Waterproof (W)	-			-			-		-		-				
	Electrical operation device (NFM)	Panel mounting	●			●			●		●		●				
		Breaker mounting	●			●			●		●		●				
	Handle lock device	LC	●			●			●		●		●				
		HL	●			●			●		●		●				
		HL-S	●			●			●		●		●				
	External operating handle	(F)	●			●			●		●		●				
		(V)	●			●			●		●		●				
Terminal cover (TC-L, TC-S, TTC, BTC, PTC)	●			●			●		●		●						
Rear stud (B-ST)	-			-			-		-		-						
Plug-in (PM)	-			-			-		-		-						
IEC 35mm rail mounting adapters	●			●			●		●		●						
CE marking		Self-declaration			Self-declaration			Self-declaration		Self-declaration		Self-declaration					
CCC recognition		Recognized			Recognized			Recognized		Recognized		Recognized					
Marine use approval (NK, LR, ABS, DNV-GL)		-			-			-		-		-					
Automatic tripping device		Thermal-magnetic			Thermal-magnetic			Thermal-magnetic		Thermal-magnetic		Electronic (effective value detection)					
Trip button		Equipped			Equipped			Equipped		Equipped		Equipped					
Page of Characteristics and dimensions		186			186			188		188		192					

Notes: *1 When using 3-pole earth-leakage circuit breakers for 1-phase 2-wire system, connect cables/busbars to left and right poles, not to center pole. When using 1-phase 3-wire system, connect neutral conductor to center pole of earth leakage circuit breaker.
 *2 For time-delay type, the rated voltage is 200-440VAC.
 *3 In case of time delay type, rated current is produced with 20 amp. or more.
 *4 When the operating time are 0.45, 1.0 and 2.0 seconds, the Earth Leakage circuit breaker operates between 0.15 and 0.45 seconds, between 0.6 and 1.0 seconds and between 1.2 and 2.0 seconds respectively.

*5 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.
 *6 Standard type is SLT equipped.
 *7 Place an order with circuit breaker.
 *8 No isolation function except 400A to 800A frame.
 *9 100VAC does not acquire the CCC certification.




NV-H / NV-R (High-performance class) Harmonic Surge Ready

Frame (A)		50	60	63	100	125	125	225	250	250	
Model		NV63-HV			NV125-HV		NV125-HEV	NV250-HV		NV250-HEV	
Image											
Rated current In (A)		(15) 16 20	(60)	63	(15) 16 20 (30) 32 40 50	125	63-81 88-106	125 150 175	250	125-250	
Rated ambient temperature 40°C		(30) 32 40 50			(60) 63 (75) 80 100 (*3)		113-125(by 6A)	200 225		(by 12.5A)	
Number of poles		3	3	3	3	4	3	4	3	4	
Phase line (*1)		3φ3W, 1φ3W, 1φ2W	3φ3W, 1φ3W, 1φ2W	3φ3W, 1φ3W, 1φ2W	3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ3W, 1φ2W	3φ4W	3φ3W, 1φ3W, 1φ2W	3φ4W	
Rated operational voltage Ue (V) (*2) AC		100-440	100-440	100-440	100-440	200-440	100-440	100-440	200-440	100-440	
High-speed type	Rated current sensitivity (mA)	30,100/200/500 selectable	30,100/200/500 selectable	30,100/200/500 selectable	30,100/200/500 selectable	30,100/200/500 selectable	(30),100/200/500 selectable	30,100/200/500 selectable	30,100/200/500 selectable	(30),100/200/500 selectable	
	Max. operating time (s)	at IΔn 0.1 at 5IΔn 0.04	0.1 0.04	0.1 0.04	0.1 0.04	0.1 0.04	0.1 0.04	0.1 0.04	0.1 0.04	0.1 0.04	0.1 0.04
Time-delay type	Rated current sensitivity (mA)	-	-	-	(100/200/500selectable)	(100/200/500selectable)	(100/200/500selectable)	(100/200/500selectable)	(100/200/500selectable)	(100/200/500selectable)	
	Max. operating time (s) (*4)	-	-	-	(0.45/1.0/2.0selectable)	(0.45/1.0/2.0selectable)	(0.45/1.0/2.0selectable)	(0.45/1.0/2.0selectable)	(0.45/1.0/2.0selectable)	(0.45/1.0/2.0selectable)	
Internal non-operating (s) (or more)		-	-	-	(0.1/0.5/1.0)	(0.1/0.5/1.0)	(0.1/0.5/1.0)	(0.1/0.5/1.0)	(0.1/0.5/1.0)	(0.1/0.5/1.0)	
Earth leakage protection characteristic		Type AC				Type AC		Type AC		Type AC	
Earth leakage indication system		Mechanical type (button)				Mechanical type (button)		Mechanical type (button)		Mechanical type (button)	
Rated short-circuit breaking capacities (kA)	AC	440V	10/8	10/8	10/8	50/38	50/38	65/65	65/65	65/65	65/65
		415V	10/8	10/8	10/8	50/38	50/38	70/70	70/70	70/70	70/70
		400V	10/8	10/8	10/8	50/38	50/38	75/75	75/75	75/75	75/75
		230V	25/19	25/19	25/19	100/75	100/75	100/100	100/100	100/100	100/100
		100V	25/19	25/19	25/19	100/75	100/75	100/100	100/100	100/100	100/100
Rated impulse withstand voltage Uimp (kV)		6	6	6	6	6	6	6	6	6	
Current		AC	AC	AC	AC	AC	AC	AC	AC	AC	
Suitability for isolation		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Reverse connection (below 230VAC)		-	-	-	-	-	-	-	-	-	
Number of operating cycles	Without current	15,000	15,000	15,000	25,000	25,000	25,000	25,000	25,000	25,000	
	With current	8,000	8,000	8,000	10,000	10,000	10,000	10,000	10,000	10,000	
Utilization category		A	A	A	A	A	A	A	A	A	
Rated short time withstand current Icu (kA) at 0.25s		-	-	-	-	-	-	-	-	-	
Pollution degree		2	2	2	2	2	2	2	2	2	
EMC environment condition (environment A or B)		A	A	A	A	A	A	A	A	A	
Overall dimensions (mm)	a	75	75	75	90	120	105	140	105	140	
	b	130	130	130	130	130	165	165	165	165	
	c	68	68	68	68	68	68	68	68	68	
	ca	90	90	90	90	90	92	92	92	92	
Mass of front-face type (kg)		0.75	0.8	0.8	1.1	1.4	1.1	1.4	1.8	2.5	
Installation and connections	Front connection (F)	Page	●Screw terminal	●Screw terminal	●Screw terminal	●Screw terminal	●Screw terminal	●Screw terminal	●Screw terminal	●Screw terminal	
	Solderless (BOX) terminal (SL)	-	-	-	-	-	-	-	-	-	
	Rear (B)	98	●Round stud	●Round stud	●Round stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	●Bar stud	
	Plug-in (PM)	-	●	●	●	●	●	●	●	●	
Cassette-type accessories	Alarm switch (AL)	115	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	
	Auxiliary switch (AX)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	
	Shunt trip (SHT)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	
	Undervoltage trip (UVT)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	●(*5)	
	Earth leakage alarm switch (EAL)	-	-	-	-	-	-	-	-	-	
	With lead-wire terminal block (SLT)	120	●	●	●	●	●	●	●	●	
Test button module (TBM)	122	●(*6)	●(*6)	●(*6)	●(*6)	●(*6)	●(*6)	●(*6)	●(*6)		
External accessories	Enclosure	Closed (S)	-	-	-	-	-	-	-	-	
		Dustproof (I)	-	-	-	-	●	-	-	-	
		Waterproof (W)	-	-	-	-	●	-	-	-	
	Electrical operation device (NFM)	140	-	-	-	●	●	●	●	●	
		Mechanical interlock (MI) (*7)	136	●	●	●	●	●	●	●	
	Handle lock device	Panel mounting	●	●	●	●	●	●	●	●	
		LC	●	●	●	●	●	●	●	●	
		HL	●	●	●	●	●	●	●	●	
	External operating handle	HL-S	135	●	●	●	●	●	●	●	
		(F)	123	●	●	●	●	●	●	●	
Terminal cover (TC-L, TC-S, TTC, BTC, PTC)	(V)	128	●	●	●	●	●	●	●		
	128	●	●	●	●	●	●	●	●		
Rear stud (B-ST)	98	●	●	●	●	●	●	●	●		
Plug-in (PM)	143	●	●	●	●	●	●	●	●		
CE marking		Self-declaration	Self-declaration	Self-declaration	Self-declaration	Self-declaration	Self-declaration	Self-declaration	Self-declaration	Self-declaration	
CCC recognition		Recognized	Recognized	Recognized	Recognized	Recognized	Recognized	Recognized	Recognized	Recognized	
Marine use approval (NK, LR, ABS, DNV-GL)		-	-	-	-	-	-	-	-	-	
Automatic tripping device		Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Electronic (effective value detection)	Thermal-magnetic	Thermal-magnetic	Electronic (effective value detection)	
Trip button		Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	
Page of Characteristics and dimensions		186			188		192		190		192

Notes: *1 When using 3-pole earth-leakage circuit breakers for 1-phase 2-wire system, connect cables/busbars to left and right poles, not to center pole. When using 1-phase 3-wire system, connect neutral conductor to center pole of earth leakage circuit breaker.
 *2 For time-delay type, the rated voltage is 200-440VAC.
 *3 In case of time delay type, rated current is produced with 20 amp. or more.
 *4 When the operating time are 0.45, 1.0 and 2.0 seconds, the Earth Leakage circuit breaker operates between 0.15 and 0.45 seconds, between 0.6 and 1.0 seconds and between 1.2 and 2.0 seconds respectively.

*5 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.
 *6 Standard type is SLT equipped.
 *7 No isolation function.
 *8 100VAC does not acquire the CCC certification.

NV-H / NV-R (High-performance class) Harmonic Surge Ready

	400 NV400-HEW	630 NV630-HEW	800 NV800-HEW
			
	Adjustable 200 225 250 300 350 400	Adjustable 300 350 400 500 600 630	Adjustable 400 450 500 600 700 800
	3	3	3
	3φ3W, 1φ3W, 1φ2W	3φ3W, 1φ3W, 1φ2W	3φ3W, 1φ3W, 1φ2W
	100-440	100-440	100-440
	(30), 100/200/500 selectable	-	-
	0.1	-	-
	0.04	-	-
	(100/200/500 selectable)	(100/200/500 selectable)	(100/200/500 selectable)
	(0.45/1.0/2.0)	(0.45/1.0/2.0)	(0.45/1.0/2.0 selectable)
	(0.1/0.5/1.0)	(0.1/0.5/1.0)	(0.1/0.5/1.0)
	Type AC	Type AC	Type AC
	Mechanical type (button)	Mechanical type (button)	Mechanical type (button)
	65/65	65/65	65/65
	70/70	70/70	70/70
	70/70	70/70	70/70
	100/100	100/100	100/100
	100/100	100/100	100/100
	100/100	100/100	100/100
	8	8	8
	AC	AC	AC
	Yes	Yes	Yes
	-	-	-
	6,000	6,000	4,000
	1,000	1,000	500
	B	B	B
	5	7.6	9.6
	3	3	3
	A	A	A
	140	140	210
	257	257	275
	103	103	103
	155	155	155
	6.6	7.1	15.3
	8.2		
	●Busbar terminal	●Busbar terminal	●Busbar terminal
	-	-	-
	●Bar stud	●Bar stud	●Bar stud
	●	●	●
	● (*5)	● (*5)	● (*5)
	● (*5)	● (*5)	● (*5)
	● (*5)	● (*5)	● (*5)
	●	●	●
	-	-	-
	●	●	●
	● (*6)	● (*6)	● (*6)
	-	-	-
	●	●	●
	●	●	●
	● (*7)	● (*7)	● (*7)
	●	●	●
	●	●	●
	-	-	-
	●	●	●
	●	●	●
	●	●	●
	●	●	●
	-	-	-
	-	-	-
	Self-declaration	Self-declaration	Self-declaration
	Recognized	Recognized	Recognized
	-	-	-
	Electronic (effective value detection)	Electronic (effective value detection)	Electronic (effective value detection)
	Equipped	Equipped	Equipped
	196	200	202

- Remarks: 1. Products with rated current parenthesized are produced when an order is placed.
 2. The setting is set to 500mA and delivered when not specifying the rated current sensitivity and the time of time-delay type of operation to 2.0 seconds.
 3. Specify "FP-LT" when using a flush plate product with a lead-wire terminal block.
 4. Specify "P-LT" when selecting plug-in type with lead-wire terminal block.
 5. The circuit breaker has the rated short-circuit breaking capacity specified in the shaded cells.

6. Rated operational voltage	Applicable circuit voltage	Available voltage range
100-440V	100/110/200/220/240/254/265/380/400/415/440V	85-484V
200-440V	200/220/240/254/265/380/400/415/440V	175-484V

NF-MB

Please specify MB

Frame (A)		30			32			50			100			225					
Model		NF32-SV						NF63-CV			NF63-SV			NF125-SV			NF250-SV		
Rated current In (A)		A	200/220V kW	400/440V kW	A	200/220V kW	400/440V kW	A	200/220V kW	400/440V kW	A	200/220V kW	400/440V kW	A	200/220V kW	400/440V kW			
Rated motor capacity (kW)		25	5.5	11	32	7.5	15	45	11	22	7.1	1.5	-	100	-	55	225	55	110
Rated ambient temperature 40°C (45°C for marine use)		16	3.7	7.5				40	-	18.5	5	-	2.2	90	22	45	200	-	-
		12	-	5.5				32	7.5	15	4	0.75	1.5	71	18.5	37	175	45	90
		10	2.2	-				25	5.5	11				63	15	30	150	37	75
		8	-	3.7				16	3.7	7.5				45	11	22	125	30	-
		7.1	1.5	-				12	2.2	5.5				(40)	-	18.5			
		5	-	2.2				10	2.2	-				32	7.5	15			
		4	0.75	1.5				8	-	3.7				(25)	5.5	11			
														(16)	3.7	7.5			
														(12.5)	-	5.5			
Number of poles		3						3			3			3					
Rated insulation voltage Ui (V)		500						500			500			500					
Rated short-circuit breaking capacities (kA)	440V	2.5/2.5			2.5/2.5			2.5/2.5			7.5/7.5			25/25			36/36		
	415V	2.5/2.5			2.5/2.5			2.5/2.5			7.5/7.5			30/30			36/36		
	400V	5/5			5/5			5/5			7.5/7.5			30/30			36/36		
	380V	5/5			5/5			5/5			7.5/7.5			30/30			36/36		
	230V	7.5/7.5			7.5/7.5			7.5/7.5			15/15			50/50			85/85		
Rated impulse withstand voltage Uimp (kV)		8						8			8			8			8		
Current		AC						AC			AC			AC			AC		
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			25,000			25,000		
	With current (440VAC)	6,000						6,000			8,000			10,000			10,000		
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	75			75			75			75			90			105		
	b	130			130			130			130			130			165		
	c	68			68			68			68			68			68		
	ca	90			90			90			90			90			92		
	Mass of front-face type (kg)	0.65						0.65			0.7			1.0			1.6		
Installation and connections	Front connection (F)	●Screw terminal						●Screw terminal			●Screw terminal			●Screw terminal			●Screw terminal		
	Solderless (BOX) terminal (SL)	-						-			-			-			-		
	Rear (B)	●Round stud						●Round stud			●Round stud			●Bar stud			●Bar stud		
Cassette-type accessories	Plug-in (PM)	-						-			-			-			-		
	Alarm switch (AL)	●(*1)						●(*1)			●(*1)			●(*1)			●(*1)		
	Auxiliary switch (AX)	●(*1)						●(*1)			●(*1)			●(*1)			●(*1)		
	Shunt trip (SHT)	●(*1)						●(*1)			●(*1)			●(*1)			●(*1)		
	Undervoltage trip (UVT)	●(*1)						●(*1)			●(*1)			●(*1)			●(*1)		
	With lead-wire terminal block (SLT)	-						-			-			-			-		
External accessories	Enclosure Closed (S)	●						●			●			●			●		
	Dustproof (I)	●						●			●			●			●		
	Waterproof (W)	-						-			-			-			-		
	Electrical operation device (NFM)	-						-			-			●(*3)			●(*3)		
	Mechanical interlock (M) (*2)	-						-			-			-			-		
	Panel mounting	●						●			●			●			●		
	Breaker mounting	●						●			●			●			●		
	LC	●						●			●			●			●		
	HL	●						●			●			●			●		
	HL-S	●						●			●			●			●		
External operating handle (F)	●						●			●			●			●			
(V)	●						●			●			●			●			
Terminal cover (TC-L, TC-S, TTC, BTC, PTC)	●						●			●			●			●			
Rear stud (B-ST)	●						●			●			●			●			
Plug-in (PM)	●						●			●			●			●			
IEC 35mm rail mounting adapters	●						●			●			-			-			
CE marking	Self-declaration						Self-declaration			Self-declaration			Self-declaration			TUV approval			
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			
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Notes: *1 The operating characteristics are different between AC and DC. 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.
*2 No isolation function.
*3 Place an order with circuit breaker.

Remarks: 1. The motor circuit breakers do not have an applicable rated motor capacity. Select a motor circuit breaker based on the total load current of the motor.
2. Products with rating parenthesized are produced when the total order is placed.
3. Specify "P-LT" when selecting plug-in type with lead-wire terminal block.
4. The circuit breaker has the rated short circuit breaking capacity specified in the shaded cells.
5. Please refer to "Table 4-17", of Page 79 for details.