

NV32-SV NV63-CV NV63-SV NV63-HV

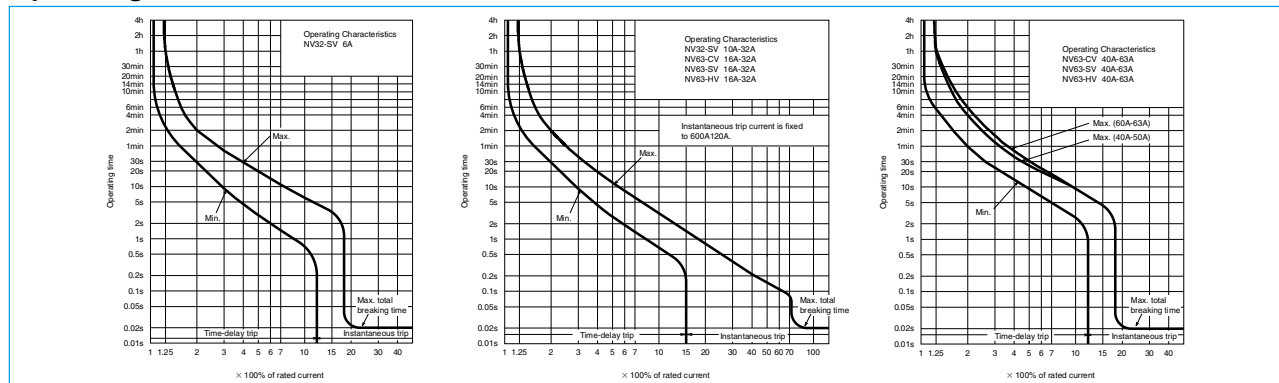


NV63-SV

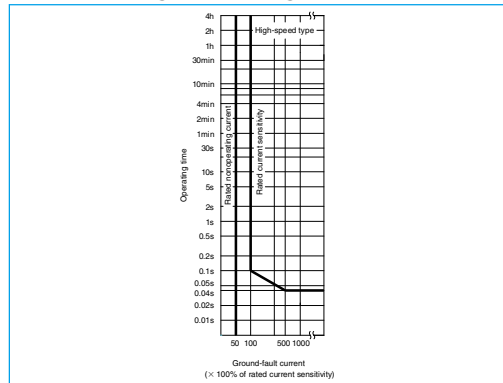
Model			NV32-SV		NV63-CV		NV63-SV		NV63-HV	
Rated current In (A)			(5) 6 10 (15) 16 20 25 (30) 32		(5) (10) (15) 16 20 25 (30) 32 40 50 (60) 63		(5) (10) (15) 16 20 25 (30) 32 40 50 (60) 63		(15) 16 20 25 (30) 32 40 50 (60) 63	
Number of poles			3		2		3		2	
Phase line			3φ3W, 1φ2W		1φ2W		3φ3W, 1φ2W		3φ3W, 1φ2W	
Rated operational voltage Ue (V)		AC	100-440		100-240		100-440		100-240	
High-speed type	Rated current sensitivity (mA)		(15) 30 100/200/500 selectable		30		15 30 100/200/500 selectable		(15) 30 100/200/500 selectable	
	Max operating time (s)	at ΔIn	0.1		0.1		0.1		0.1	
		at 5ΔIn	0.04		0.04		0.04		0.04	
Time-delay type	Rated current sensitivity (mA)		—		—		—		—	
	Max operating time (s)		—		—		—		—	
	Inertial operating time (s) (or more)		—		—		—		—	
Earth-leakage indication system			Mechanical type (button)		Mechanical type (button)		Mechanical type (button)		Mechanical type (button)	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	440V	5/5	—	2.5/2.5	—	7.5/7.5	10/8	
			415V	5/5	—	2.5/2.5	—	7.5/7.5	10/8	
			400V	5/5	—	5/5	—	7.5/7.5	10/8	
			230V	10/10	7.5/7.5		15/15		25/19	
			200V	10/10	7.5/7.5		15/15		25/19	
			100V	10/10	7.5/7.5		15/15		25/19	
Standard attached parts (Front connection)			Mounting screw: M4×0.7×55 (2pcs) (*1)				Insulation barrier: (2P: 1pc, 3P: 2pcs)			

Note *1 Attached to NV63-SV and NV63-HV.

Operating Characteristics



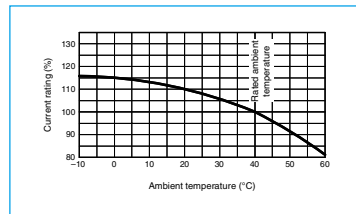
Earth leakage Tripping Characteristics



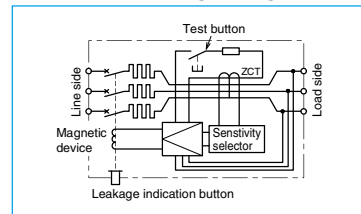
Internal Accessories



Temperature Compensation Curve



Internal Wiring Diagram



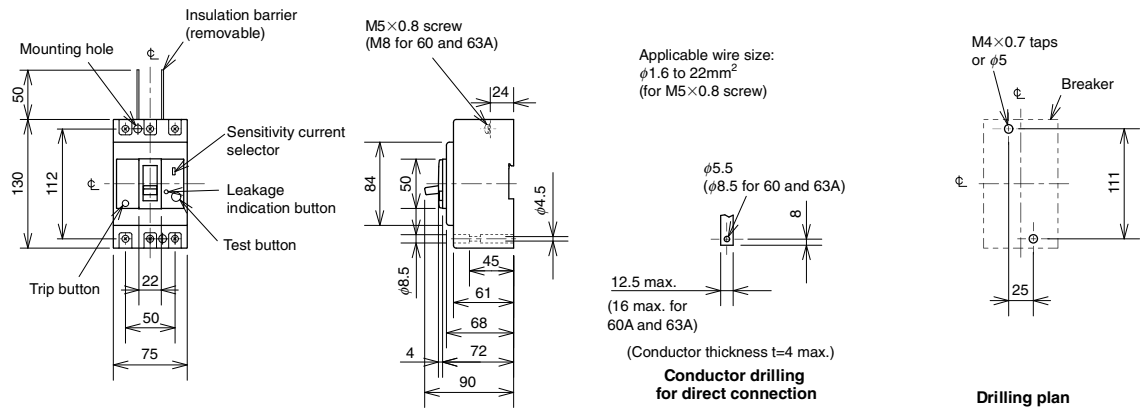
External Accessories

Accessories		Type name	Reference page	Accessories		Type name	Reference page	
Operating handle	F	F-05SV	117	Mechanical interlock		MI	MI-05SV3	129
	V	V-05SV	119	Terminal cover	Small	TC-S	TCS-05SV3	121
Handle lock device	LC	LC-05SV	127		Large	TC-L	TCL-05SV3	
	HL (*1)	HLF-05SV			TCL-05SV3L			
		HLN-05SV			TTC-05SV3			
	HL-S	HLS-05SV			BTC-05SV3			
Note *1 HLF types are used for OFF lock and HLN types for ON lock.					Plug-in	PTC	PTC-05SV3	
				IEC 35mm rail mounting adapters		DIN-05SV	137	

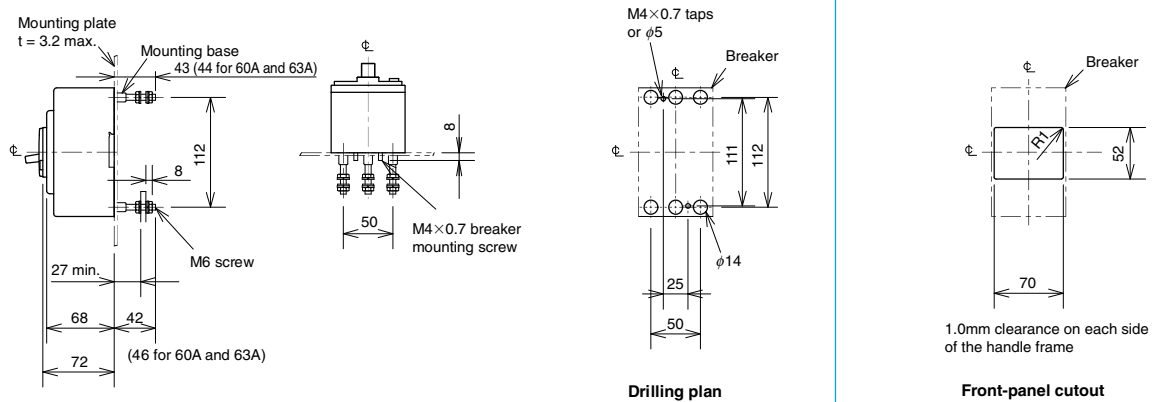
Note *1 HLF types are used for OFF lock and HLN types for ON lock.

Outline Drawing

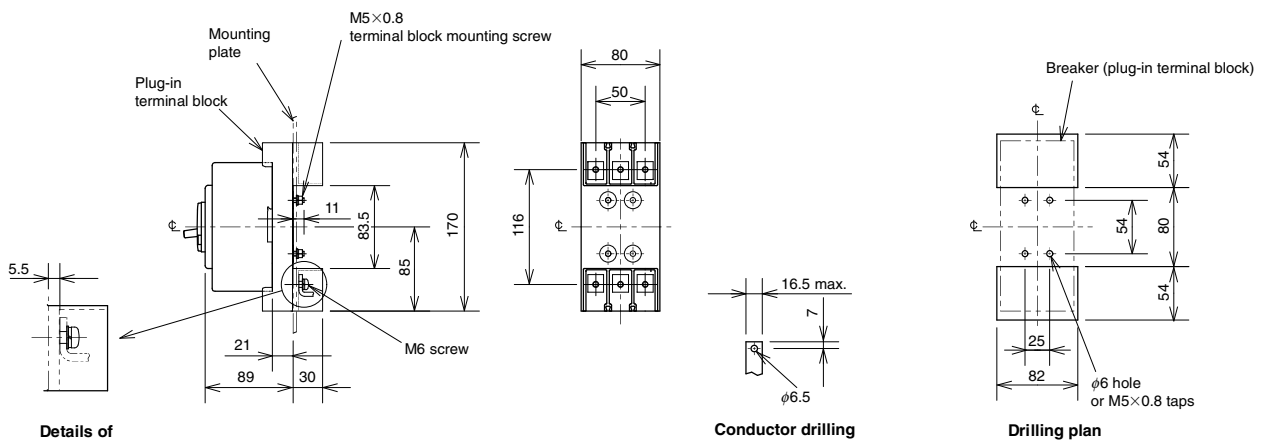
Front connection



Rear connection



Plug-in



Remark: 1. 2-pole models are 3-pole models with the central pole removed.

NV125-CV NV125-SV NV125-HV

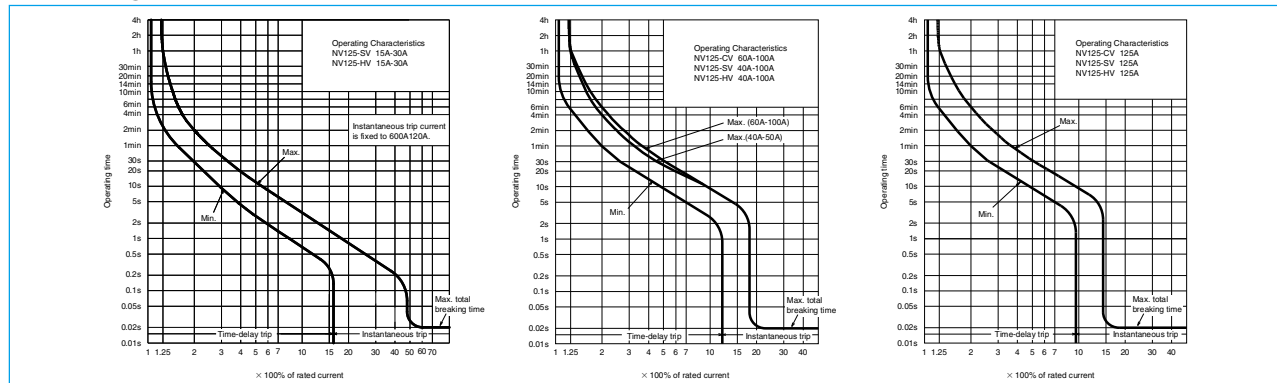


NV125-SV

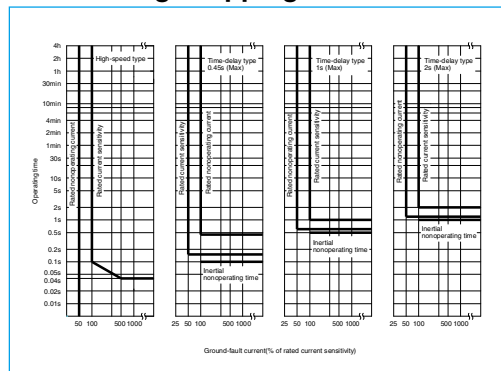
Model			NV125-CV		NV125-SV		NV125-HV	
Rated current In (A)			(60) 63 (75) 80 100 125		(15) 16 20 30 32 40 50 (60) 63 (75) 80 100 125 (*2)		(15) 16 20 (30) 32 40 50 (60) 63 75 80 100 125 (*2)	
Number of poles			3		3 4		3 4	
Phase line			3φ3W, 1φ2W		3φ3W, 1φ2W 3φ4W		3φ3W, 1φ2W 3φ4W	
Rated operational voltage Ue (V)		AC	100-440		100-440 200-440		100-440 200-440	
High-speed type	Rated current sensitivity (mA)		(15) 30 100/200/500 selectable		30 100/200/500 selectable		(30) 100/200/500 selectable	
	Max operating time (s)	at IΔn	0.1		0.1		0.1	
		at 5IΔn	0.04		0.04		0.04	
Time-delay type	Rated current sensitivity (mA)		(100/200/500 selectable)		(100/200/500 selectable)		(100/200/500 selectable)	
	Max operating time (s)		(0.45/1.0/2.0 selectable)		(0.45/1.0/2.0 selectable)		(0.45/1.0/2.0 selectable)	
	Inertial operating time (s) (or more)		(0.1/0.5/1.0)		(0.1/0.5/1.0)		(0.1/0.5/1.0)	
Earth-leakage indication system			Mechanical type (button)		Mechanical type (button)		Mechanical type (button)	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	440V	10/5	25/25		50/38	
			415V	10/5	30/30		50/38	
			400V	10/5	30/30		50/38	
			230V	30/15	50/50		100/75	
			200V	30/15	50/50		100/75	
			100V	30/15	50/50	—	100/75	—
Standard attached parts (Front connection)			Mounting screw: M4×0.7×55 (3P: 2pcs, 4P: 4pcs) (*1) Insulation barrier: (3P: 2pcs, 4P: 3pcs)					

Note *1 Attached to NV125-SV and NV125-HV.
*2 In case of time delay type, rated current is produced with 20 amp. or more.

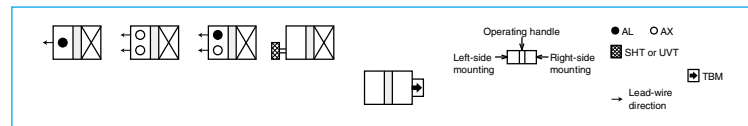
Operating Characteristics



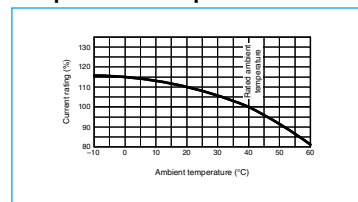
Earth leakage Tripping Characteristics



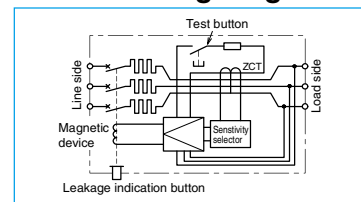
Internal Accessories



Temperature Compensation Curve



Internal Wiring Diagram

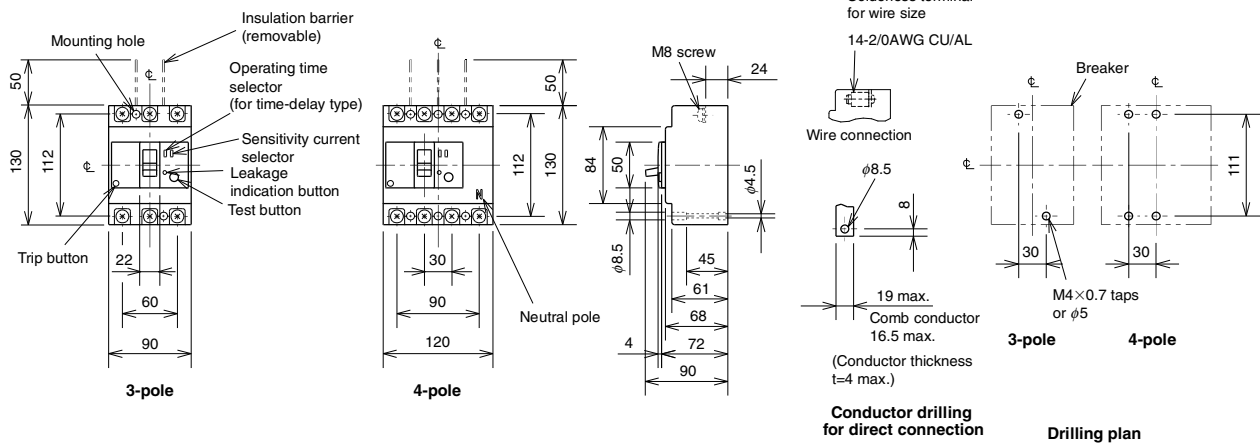


External Accessories

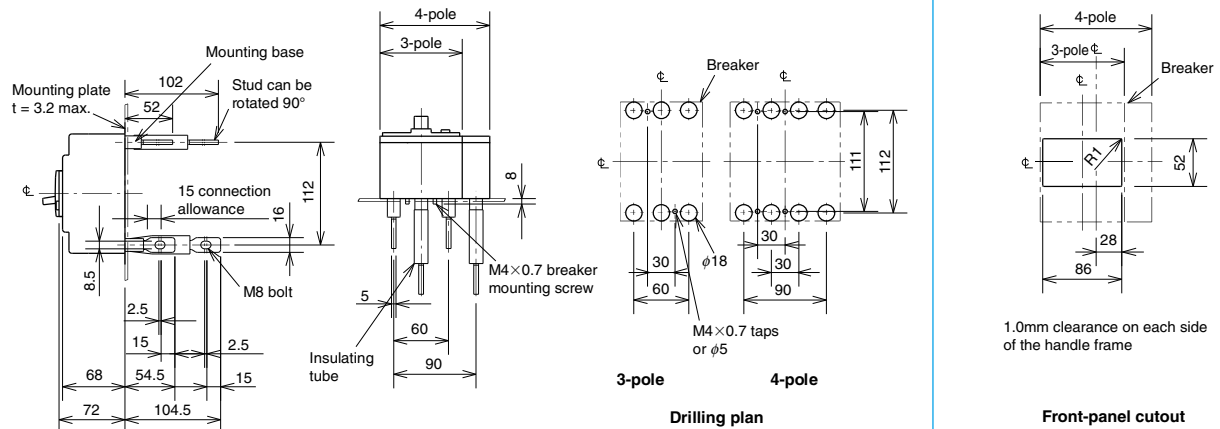
Accessories		Type name	Reference page	Accessories			Type name	Reference page
Operating handle	F	F-1SV	117	Mechanical interlock	MI	3P	MI-05SV3	129
	V	V-1SV	119			4P	MI-1SV4	
Handle lock device	LC	LC-05SV	127	Terminal cover	Small	TC-S	TCS-1SV3	121
	HL (*1)	HLF-05SV			TC-L	3P	TCL-1SV3	
		HLN-05SV				4P	TCL-1SV4	
	HL-S	HLS-05SV			Skeleton	TTC	TTC-1SV3	
Notes					Rear	BTC	BTC-1SV3	
*1 HLF types are used for OFF lock and HLN types for ON lock.					Plug-in	PTC	PTC-1SV3	
*2 Specify the working voltage. Refer to the reference page for type name.					Electrical operation device		(*2)	

Outline Drawing

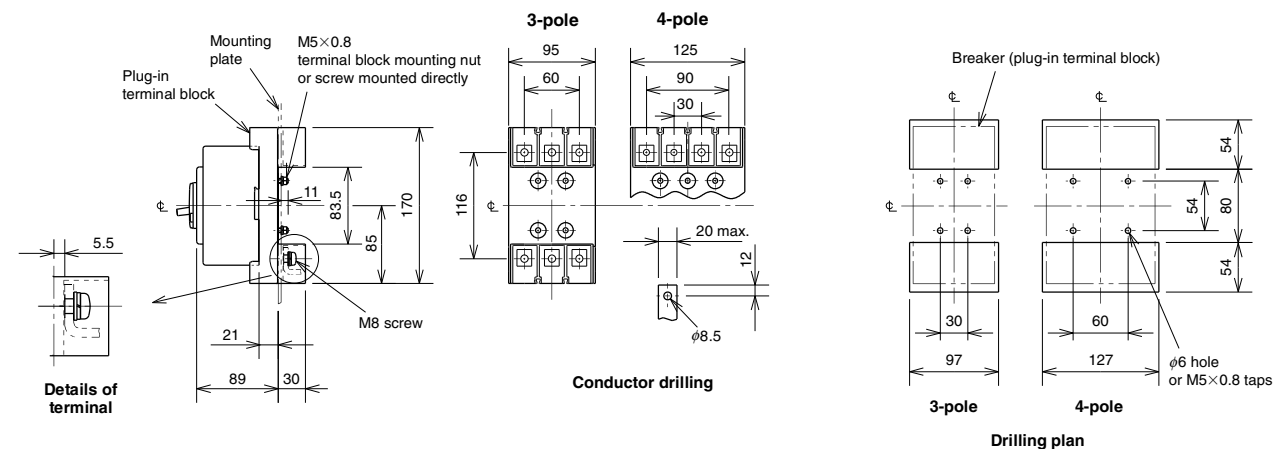
Front connection



Rear connection



Plug-in



Remark: 1. Only 3-pole models are available for NV125-CV.

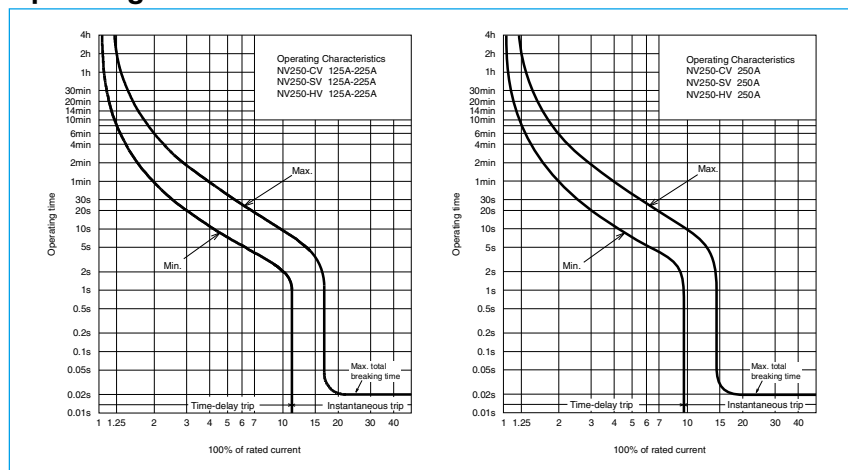
NV250-CV NV250-SV NV250-HV



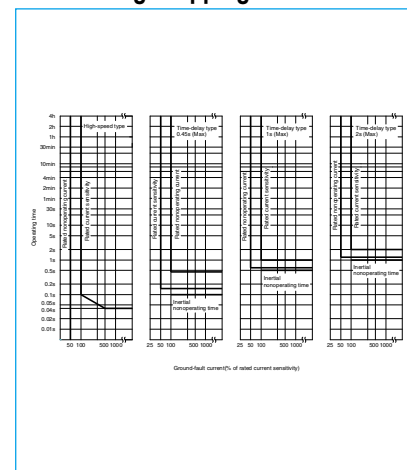
NV250-CV

Model			NV250-CV		NV250-SV		NV250-HV	
Rated current In (A)			125 150 175 200 225 250		125 150 175 200 225 250		125 150 175 200 225 250	
Number of poles			3		3	4	3	4
Phase line			3φ3W, 1φ2W		3φ3W, 1φ2W	3φ4W	3φ3W, 1φ2W	3φ4W
Rated operational voltage Ue (V)		AC	100-440		100-440	200-440	100-440	200-440
High-speed type	Rated current sensitivity (mA)		30 100/200/500 selectable		(30) 100/200/500 selectable		(30) 100/200/500 selectable	
		at IΔn	0.1		0.1		0.1	
	Max operating time (s)	at 5IΔn	0.04		0.04		0.04	
Time-delay type	Rated current sensitivity (mA)		(100/200/500 selectable)		(100/200/500 selectable)		(100/200/500 selectable)	
	Max operating time (s)		(0.45/1.0/2.0 selectable)		(0.45/1.0/2.0 selectable)		(0.45/1.0/2.0 selectable)	
	Inertial operating time (s) (or more)		(0.1/0.5/1.0)		(0.1/0.5/1.0)		(0.1/0.5/1.0)	
Earth-leakage indication system			Mechanical type (button)		Mechanical type (button)		Mechanical type (button)	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	440V	15/12	36/36		65/65	
			415V	25/19	36/36		70/70	
			400V	25/19	36/36		75/75	
			230V	36/27	85/85		100/100	
			200V	36/27	85/85		100/100	
			100V	36/27	85/85	—	100/100	
Standard attached parts (Front connection)			Mounting screw: M4×0.7×55 (3P: 2pcs, 4P: 4pcs) Insulation barrier: (3P: 4pcs, 4P: 6pcs)					

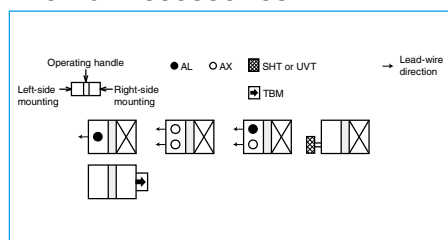
Operating Characteristics



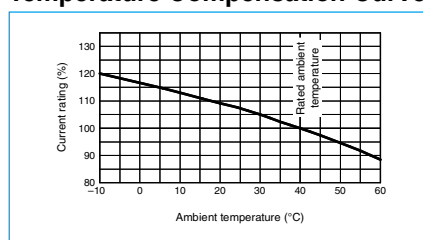
Earth leakage Tripping Characteristics



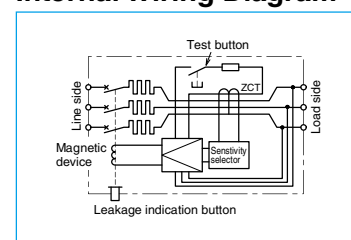
Internal Accessories



Temperature Compensation Curve



Internal Wiring Diagram



External Accessories

Accessories		Type name	Reference page	Accessories			Type name	Reference page	
Operating handle	F	F-2SV	117	Mechanical interlock	MI	3P	MI-05SV3	129	
	V	V-2SV	119			4P	MI-2SV4		
Handle lock device	LC	LC-05SV	127	Terminal cover	Small	TC-S	3P	TCS-2SV3	121
	HL (*1)	HLF-05SV					3P	TCL-2SV3	
		HLN-05SV			TCL-2SV3L				
	HL-S	HLS-2SV			4P	TCL-2SV4			
					Skeleton	TTC	3P	TTC-2SV3	
					Rear	BTC	3P	BTC-2SV3	
					Plug-in	PTC	3P	PTC-2SV3	
				Electrical operation device			(*2)	133	

Notes *1 HLF types are used for OFF lock and HLN types for ON lock.
 *2 Specify the working voltage. Refer to the reference page for type name.

Notes *1 HLF types are used for OFF lock and HLN types for ON lock.
*2 Specify the working voltage. Refer to the reference page for type name.

Drilling plan

Front-panel cutout

Drilling plan

2 Characteristics and Dimensions

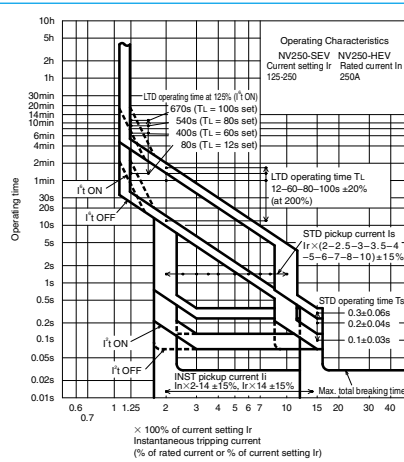
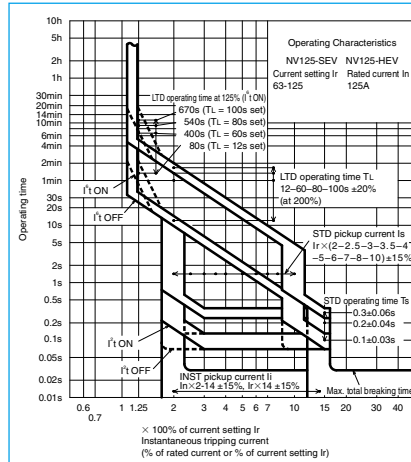
NV125-SEV NV125-HEV NV250-SEV NV250-HEV



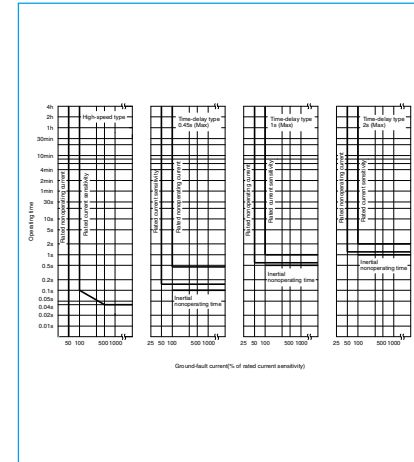
NV250-SEV

Model			NV125-SEV		NV125-HEV		NV250-SEV		NV250-HEV	
Rated current In (A)			125		125		250		250	
Current setting Ir (A)			63-125		63-125		125-250		125-250	
Number of poles			3	4	3	4	3		3	
Phase line type			3φ3W, 1φ2W	3φ4W	3φ3W, 1φ2W	3φ4W	3φ3W, 1φ2W		3φ3W, 1φ2W	
Rated operational voltage Ui		V	440		440		440		440	
Rated operational voltage Ue (V)		AC	100-440		100-440		100-440		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	
	Max operating time (s)	at IΔn	0.1		0.1		0.1		0.1	
		at 5IΔn	0.04		0.04		0.04		0.04	
Time-delay type	Rated current sensitivity (mA)		(100/200/500 selectable)		(100/200/500 selectable)		(100/200/500 selectable)		(100/200/500 selectable)	
	Max operating time (s)		(0.45/1.0/2.0 selectable)		(0.45/1.0/2.0 selectable)		(0.45/1.0/2.0 selectable)		(0.45/1.0/2.0 selectable)	
	Inertial operating time (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)	
Earth-leakage indication system			Mechanical type (button)		Mechanical type (button)		Mechanical type (button)		Mechanical type (button)	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	440V	36/36	65/65		36/36		65/65	
			415V	36/36	70/70		36/36		70/70	
			400V	36/36	75/75		36/36		75/75	
			230V	85/85	100/100		85/85		100/100	
			200V	85/85	100/100		85/85		100/100	
			100V	85/85	100/100		85/85		100/100	
Standard attached parts (Front connection)			Mounting screw: M4×0.7×55 (3P: 2pcs, 4P: 4pcs)				Insulation barrier: (3P: 4pcs, 4P: 6pcs)			

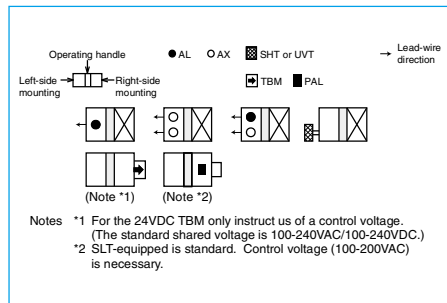
Operating Characteristics



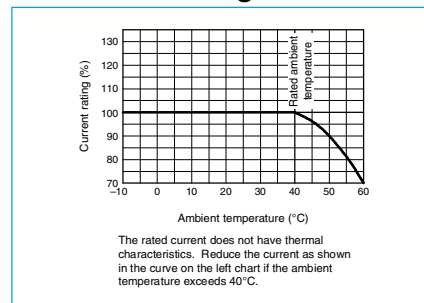
Earth leakage Tripping Characteristics



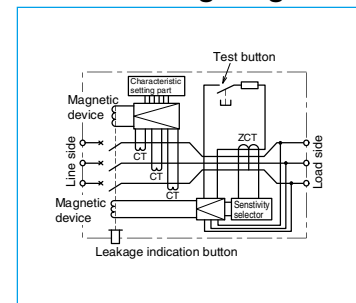
Internal Accessories



Current Reducing Curve



Internal Wiring Diagram



External Accessories

Accessories		Type name	Reference page	Accessories			Type name	Reference page	
Operating handle	F	F-2SV	117	Mechanical interlock	MI	3P	MI-05SV3	129	
	V	V-2SV	119			4P	MI-2SV4		
Handle lock device	LC	LC-05SV	127	Terminal cover	Small	TC-S	3P	TCS-2SV3	121
	HL (*1)	HLF-05SV					TC-L	3P	
		HLN-05SV			4P	TCL-2SV3L			
	HL-S	HLS-2SV			3P	TCL-2SV4			
		3P	TTC-2SV3						
		3P	BTC-2SV3						
		3P	PTC-2SV3						
Notes *1 HLF types are used for OFF lock and HLN types for ON lock. *2 Specify the working voltage. Refer to the reference page for type name.				Electrical operation device			(*2)	133	

Notes *1 HLF types are used for OFF lock and HLN types for ON lock.
*2 Specify the working voltage. Refer to the reference page for type name.

NV400-CW NV400-SW

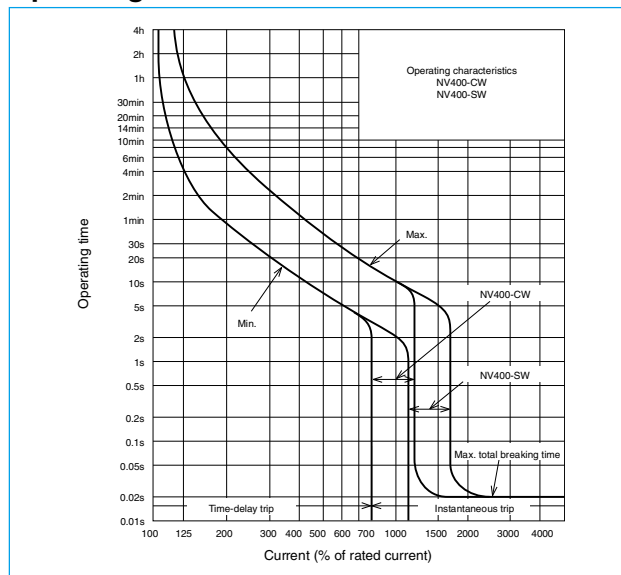


NV400-SW

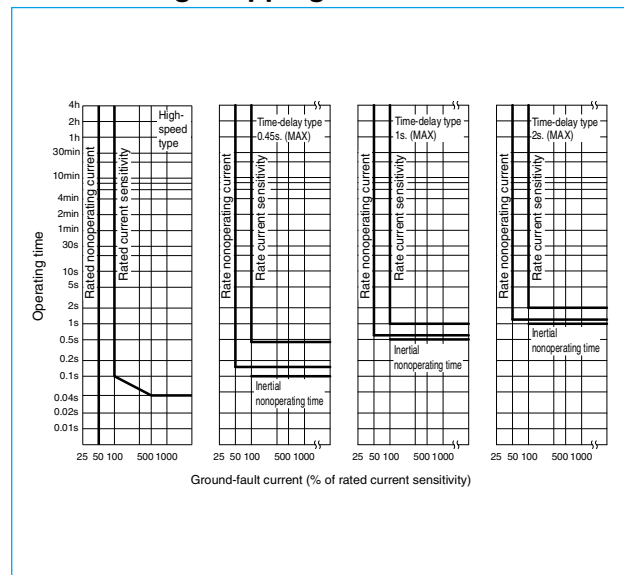
Model			NV400-CW	NV400-SW
Number of poles			3	
Rated operational voltage Ue (V AC) (*1)			100-440 Multi-voltage type	
Rated current In (A)			250 300 350 400	
High-speed type	Rated current sensitivity IΔn (mA)		(30) 100 · 200 · 500 Selectable	
	Max. operating time at 5IΔn (s)		0.04	
Time-delay type	Rated current sensitivity IΔn (mA)		(100 · 200 · 500 Selectable)	
	Max. operating time at 2IΔn (s)		(0.45 · 1.0 · 2.0 Selectable)	
	Inertial non-operating time at 2IΔn (s)		(0.1 · 0.5 · 1.0)	
Earth-leakage indication system			Button	
Rated short-circuit breaking capacity (kA) IEC 60947-2 (Icu/Ics) EN 60947-2	AC	440V	25/13	42/42
		400V	36/18	45/45
		230V	50/25	85/85
Standard attached parts (Front connection)			Mounting screw: M6×60 (4pcs) Insulation barrier: (4pcs)	

Note *1 Rated operational voltage of time-delay type is for 200-440V.

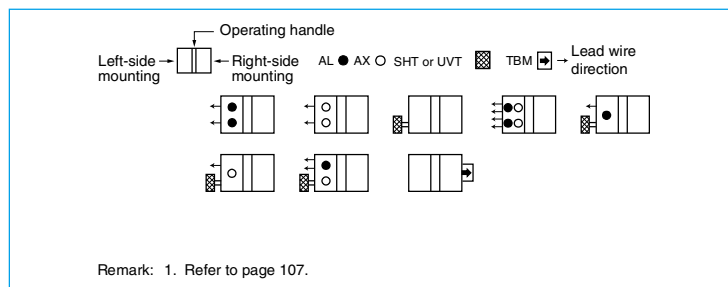
Operating Characteristics



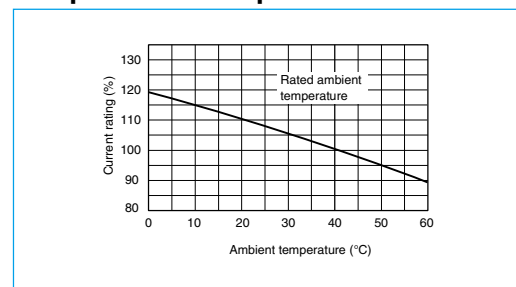
Earth Leakage Tripping Characteristics



Internal Accessories



Temperature Compensation Curve

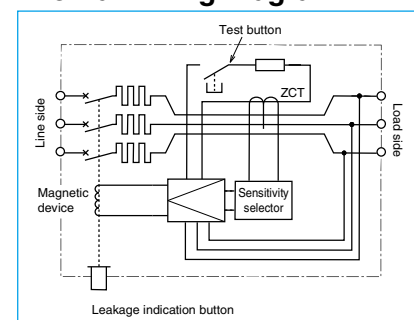


External Accessories

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	117	Auxiliary handle	HT HT-4CW, HT-4SW	128
	V V-4S	119	Terminal cover	Large TC-L TCL-4SW3	121
Mechanical interlock	MI MI-4SW3	129	Skeleton	TTC TTC-4SW3	
			Rear	BTC BTC-4SW3	127
			Handle lock device	HL HL-4CW, HL-4SW	
			Electrical operation device	HL-S HLS-4SW	133
				(*1)	

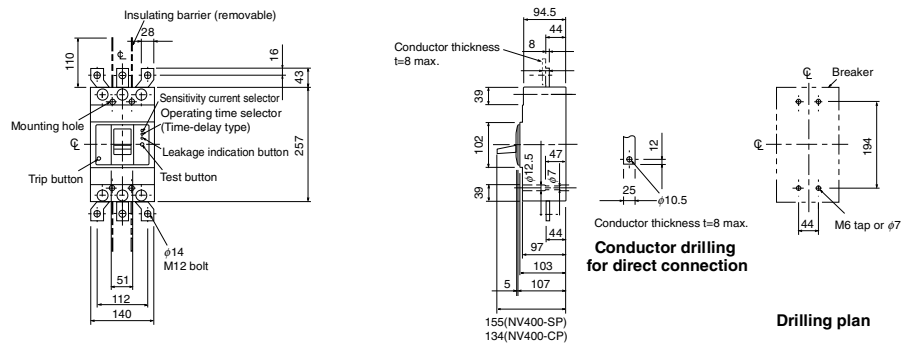
Note *1 Specify the operation method and voltage. Order in combination with the breaker unit.

Internal Wiring Diagram

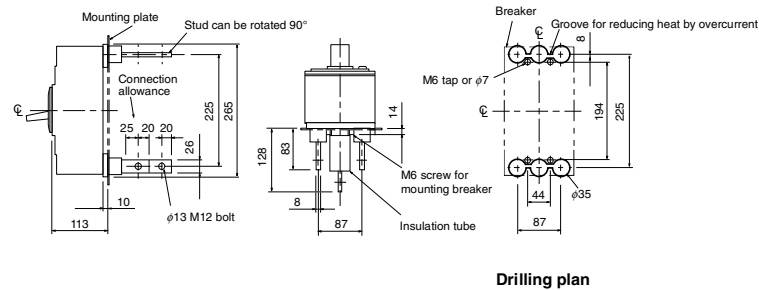


Outline Drawing

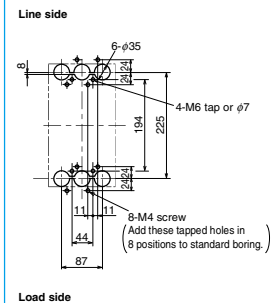
Front connection



Rear connection



Boring dimensions for rear connection type barriers (3-pole)



Note The bore dimensional drawing shows the breaker viewed from the rear.

NV400-SEW NV400-HEW NV400-REW

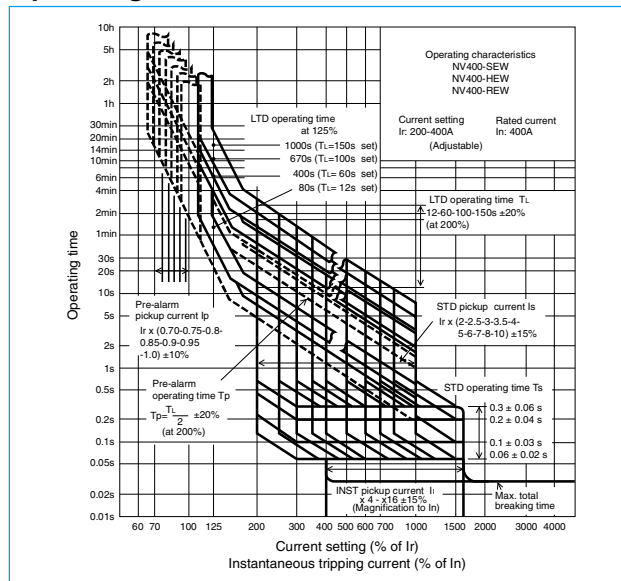


NV400-SEW

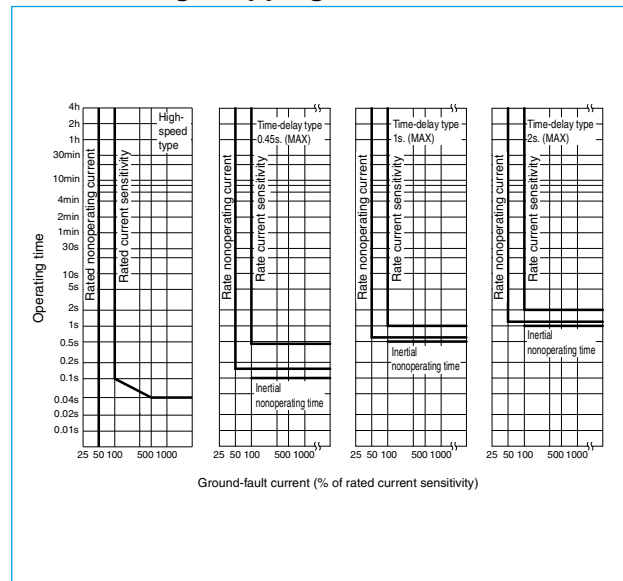
Model			NV400-SEW		NV400-HEW		NV400-REW
Number of poles			3	4	3	4	3
Rated operational voltage Ue (V AC) (*1)			100-440 Multi-voltage type				
Rated current In (A)			200-400 adjustable				
High-speed type	Rated current sensitivity IΔn (mA)		(30) 100 · 200 · 500 Selectable				
	Max. operating time at 5IΔn (s)		0.04				
Time-delay type	Rated current sensitivity IΔn (mA)		(100 · 200 · 500 Selectable)				
	Max. operating time at 5IΔn (s)		(0.45 · 1.0 · 2.0 Selectable)				
	Max. inertial non-operating time at 2IΔn (s)		(0.1 · 0.5 · 1.0)				
Earth-leakage indication system			Button				
Rated short-circuit breaking capacity (kA) IEC 60947-2 (Icu/Ics) EN 60947-2	AC	440V	42/42		65/65		125/63
		400V	50/50		70/70		125/63
		230V	85/85		100/100		150/75
Standard attached parts (Front connection)			Mounting screw: M6x72 (4pcs) Insulation barrier: (3P: 4pcs, 4P: 6pcs)				

Note *1 Rated operational voltage of time-delay type is for 200-440V.

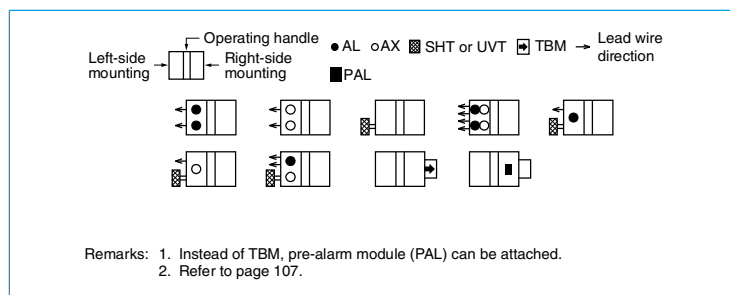
Operating Characteristics



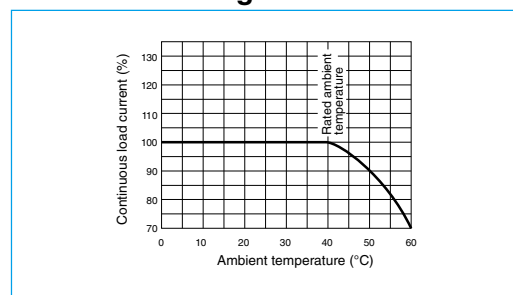
Earth Leakage Tripping Characteristics



Internal Accessories



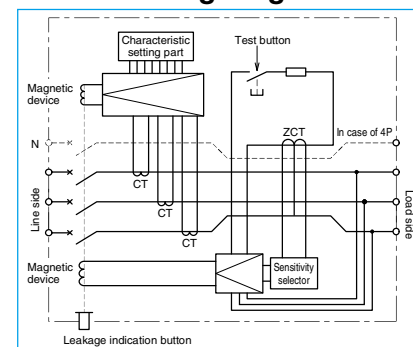
Current Reducing Curve



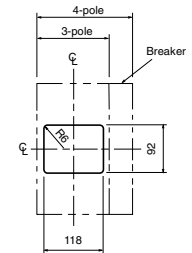
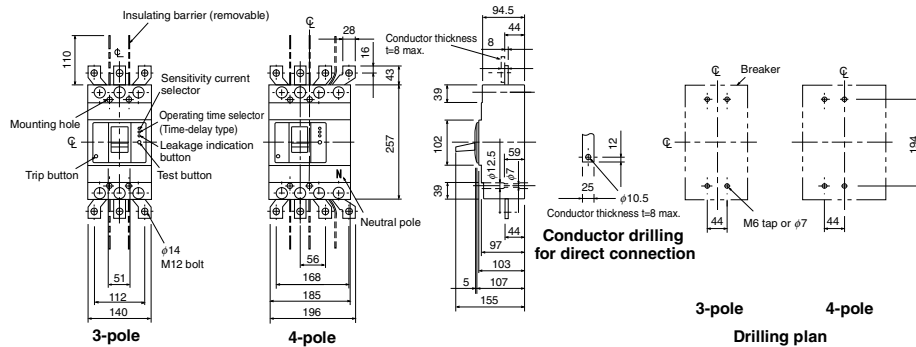
External Accessories

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F	F-4S 117	Auxiliary handle	HT	HT-4SW 128
	V	V-4S 119			
Mechanical interlock	MI	3P MI-4SW3 129			
		4P MI-4SW4			
Notes					
*1 This is for NV400-SEW.					
*2 This is for NV400-SEW. For rear terminal cover of NV400-HEW/REW, use PTC-4SW3.					
*3 Specify the operation method and voltage. Order in combination with the breaker unit.					
			Terminal cover		
			Large	TC-L	3P TCL-4SW3 (*1) 121
					4P TCL-4SW4 (*1)
			Skeleton	TTC	3P TTC-4SW3
					4P TTC-4SW4
			Rear	BTC	3P BTC-4SW3 (*2)
					4P BTC-4SW4
			Handle lock device	HL	HL-4SW 127
				HL-S	HLS-4SW
			Electrical operation device	NVM	3P (*3) 133
				4P	

Internal Wiring Diagram



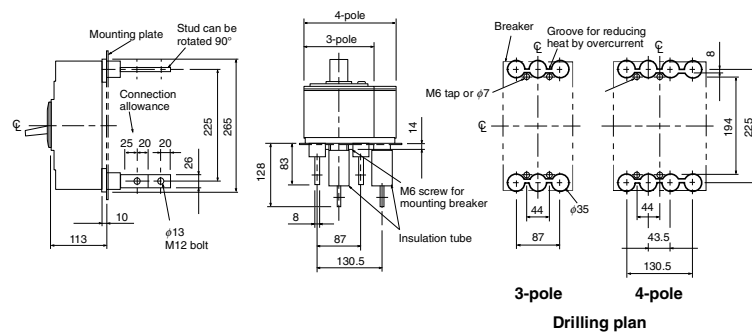
Front connection



1.0mm clearance on each side of the handle frame.

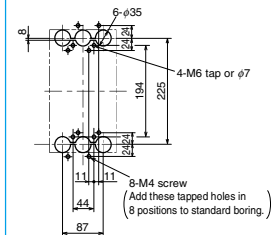
Front-panel cutout

Rear connection



Boring dimensions for rear connection type barriers (3-pole)

Line side



Load side

Note The bore dimensional drawing shows the breaker viewed from the rear.

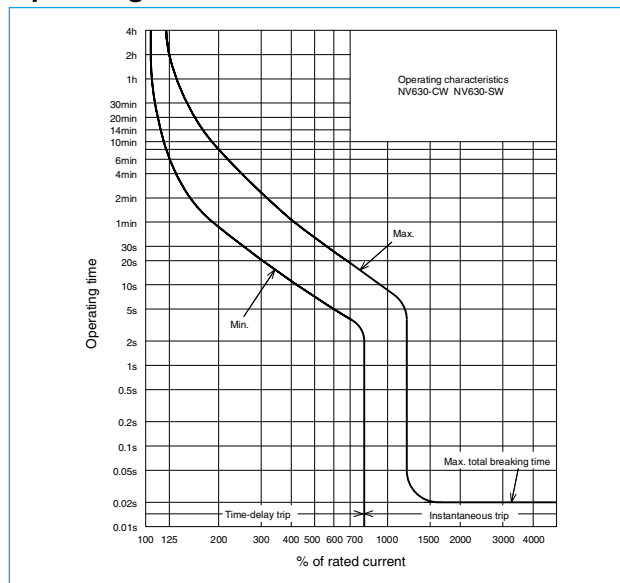
NV630-CW NV630-SW



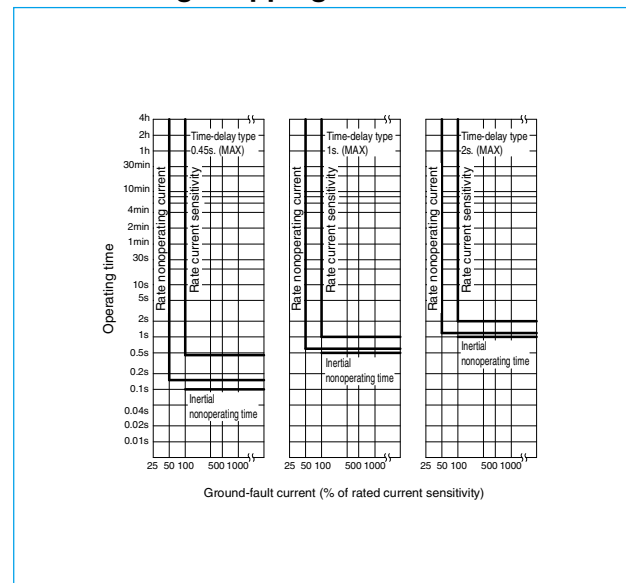
NV630-SW

Model			NV630-CW	NV630-SW
Number of poles			3	
Rated operational voltage Ue (V AC)			100-440 Multi-voltage type	
Rated current In (A)			500 600 630	
High-speed type	Rated current sensitivity IΔn (mA)		—	
	Max. operating time at 5IΔn (s)		—	
Time-delay type	Rated current sensitivity IΔn (mA)		100 · 200 · 500 Selectable	
	Max. operating time at 5IΔn (s)		0.45 · 1.0 · 2.0 Selectable	
	Max. inertial non-operating time at 2IΔn (s)		0.1 · 0.5 · 1.0	
Earth-leakage indication system			Button	
Rated short-circuit breaking capacity (kA) IEC 60947-2 (Icu/Ics) EN 60947-2	AC	440V	36/18	42/42
		400V	36/18	50/50
		230V	50/25	85/85
Standard attached parts (Front connection)			Mounting screw: M6x72 (4pcs) Insulation barrier: (4pcs)	

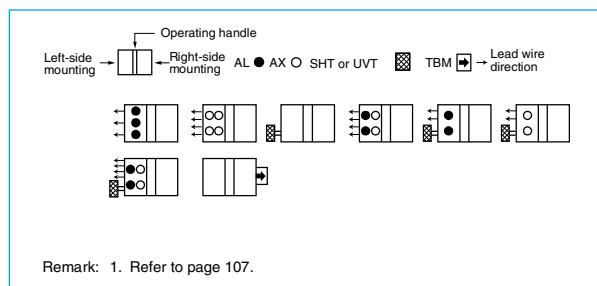
Operating Characteristics



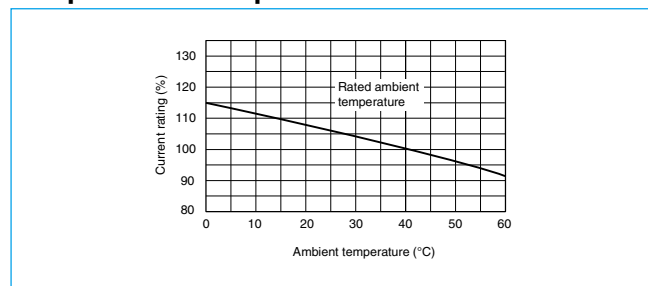
Earth Leakage Tripping Characteristics



Internal Accessories



Temperature Compensation Curve

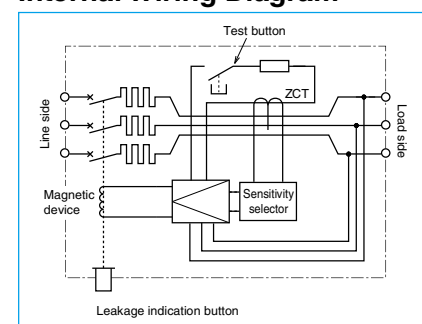


External Accessories

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	117	Auxiliary handle	HT HT-4SW	128
	V V-4S	119	Large	TC-L TCL-4SW3	121
Mechanical interlock	MI MI-4SW3	129	Skeleton	TTC TTC-4SW3	
			Rear	BTC BTC-4SW3	
			Handle lock device	HL HL-4SW	127
				HL-S HLS-4SW	
			Electrical operation device	(*1)	133

Note *1 Specify the operation method and voltage. Order in combination with the breaker unit.

Internal Wiring Diagram



NV630-SEW NV630-HEW

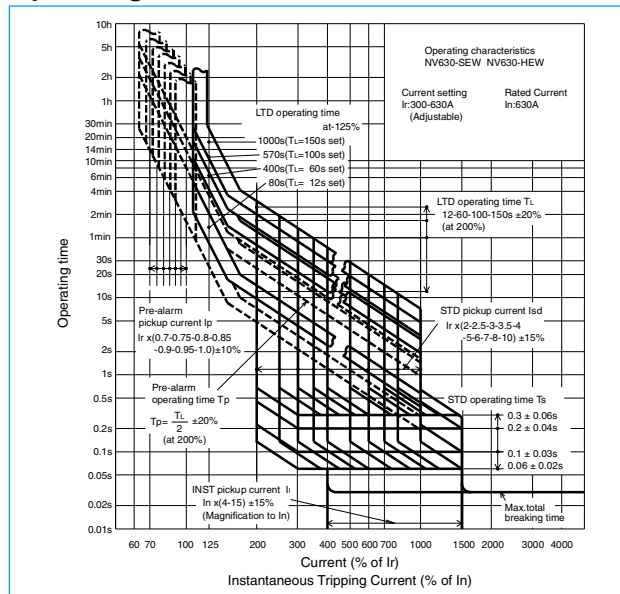


NV630-SEW

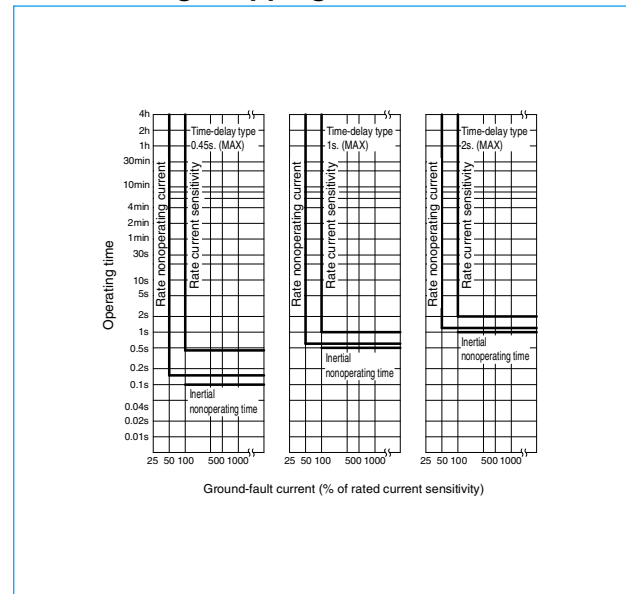
Model			NV630-SEW		NV630-HEW
Number of poles			3	4	3
Rated operational voltage Ue (V AC) (*1)			100-440 Multi-voltage type		
Rated current In (A)			300-630 adjustable		
High-speed type	Rated current sensitivity IΔn (mA)		—		
	Max. operating time at 5IΔn (s)		—		
Time-delay type	Rated current sensitivity IΔn (mA)		(100 · 200 · 500 Selectable)		
	Max. operating time at 5IΔn (s)		(0.45 · 1.0 · 2.0 Selectable)		
	Max. inertial non-operating time at 2IΔn (s)		(0.1 · 0.5 · 1.0)		
Earth-leakage indication system			Button		
Rated short-circuit breaking capacity (kA) IEC 60947-2 (Icu/Ics) EN 60947-2	AC	440V	42/42	65/65	
		400V	50/50	70/70	
		230V	85/85	100/100	
Standard attached parts (Front connection)			Mounting screw: M6×72 (4pcs) Insulation barrier: (3P: 4pcs, 4P: 6pcs)		

Note *1 Rated operational voltage of time-delay type is for 200-440V.

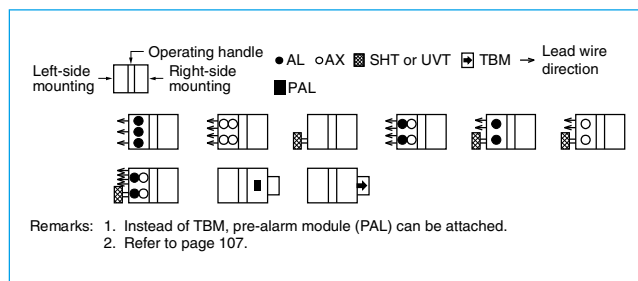
Operating Characteristics



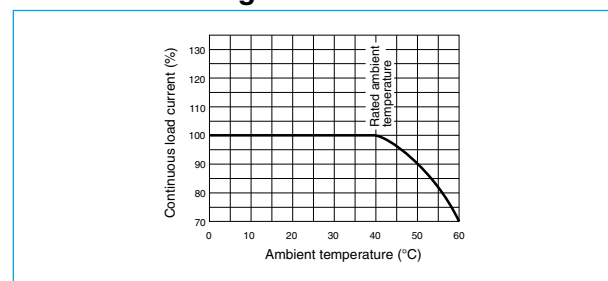
Earth Leakage Tripping Characteristics



Internal Accessories



Current Reducing Curve



External Accessories

Accessories		Type name	Reference page	Accessories		Type name	Reference page
Operating handle	F	F-4S	117	Auxiliary handle	HT	HT-4SW	128
	V	V-4S	119	Terminal cover	Large	TC-L 3P TCL-4SW3 (*1)	121
Mechanical interlock	MI	3P MI-4SW3	4P TCL-4SW4 (*1)				
		4P MI-4SW4	3P TTC-4SW3				
			Skeleton		TTC 4P TTC-4SW4		
			Rear		3P BTC-4SW3 (*2)	127	
					4P BTC-4SW4		
			Handle lock device		HL HL-4SW	127	
					HL-S HLS-4SW		
			Electrical operation device	NVM 3P (*3)	133		
				4P			

Notes

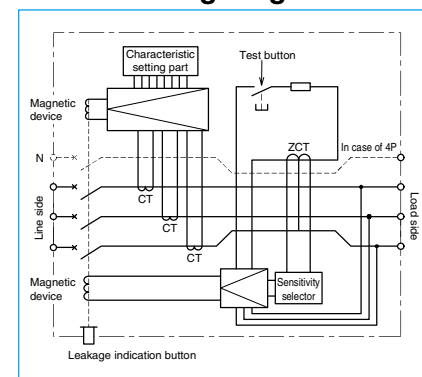
*1 This is for NV630-SEW.

*2 This is for NV630-SEW. For rear terminal cover of NV630-HEW, use PTC-4SW3.

*3 Specify the operation method and voltage.
Order in combination with the breaker unit.

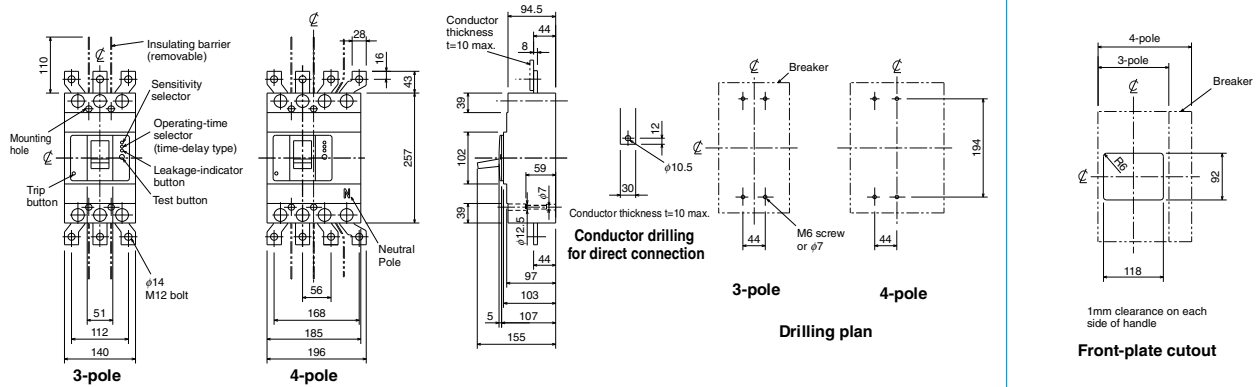
Notes *1 This is for NV630-SEW.
*2 This is for NV630-SEW. For rear terminal cover of NV630-HEW, use PTC-4SW3.
*3 Specify the operation method and voltage. Order in combination with the breaker unit.

Internal Wiring Diagram

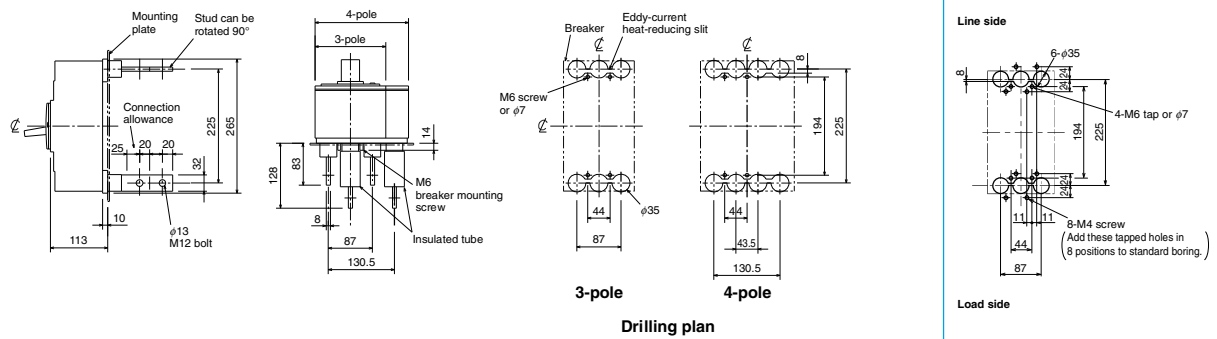


Outline Drawing

Front connection



Rear connection



Note The bore dimensional drawing shows the breaker viewed from the rear.

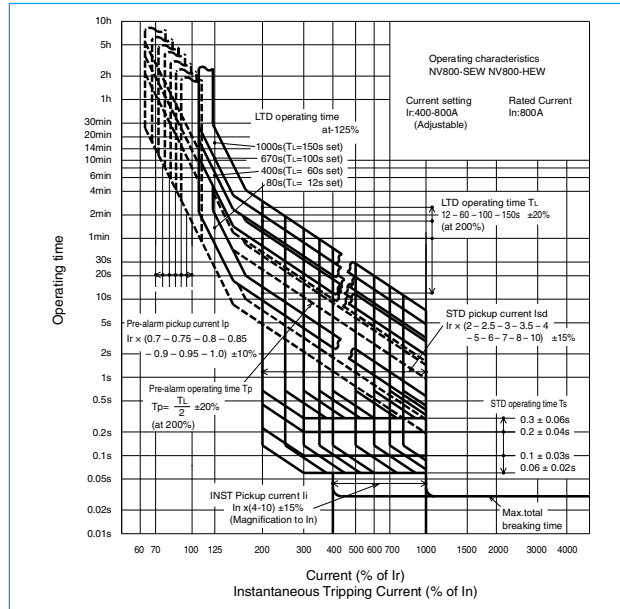
NV800-SEW NV800-HEW



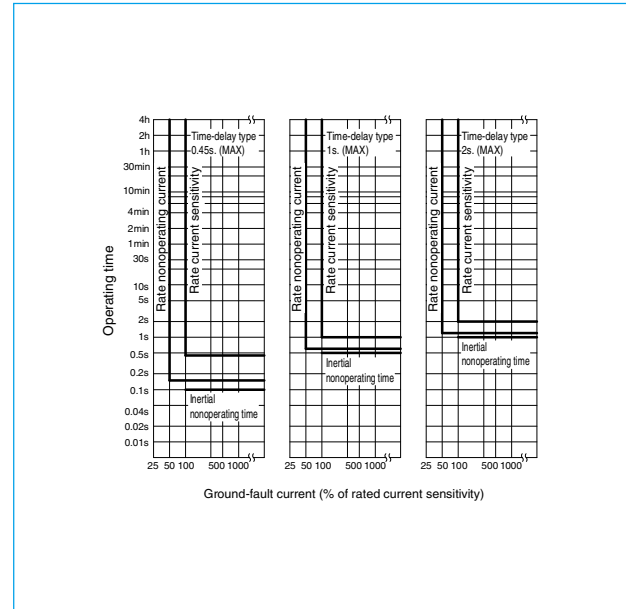
NV800-SEW

Model			NV800-SEW	NV800-HEW
Number of poles			3	
Rated operational voltage Ue (V AC)			100-440 Multi-voltage type	
Rated current In (A)			400-800 adjustable	
High-speed type	Rated current sensitivity IΔn (mA)		—	
	Max. operating time at 5IΔn (s)		—	
Time-delay type	Rated current sensitivity IΔn (mA)		100 · 200 · 500 Selectable	
	Max. operating time at 5IΔn (s)		0.45 · 1.0 · 2.0 Selectable	
	Max. inertial non-operating time at 2IΔn (s)		0.1 · 0.5 · 1.0	
Earth-leakage indication system			Button	
Rated short-circuit breaking capacity (kA) IEC 60947-2 (Icu/Ics) EN 60947-2	AC	440V	42/42	65/65
		400V	50/50	70/70
		230V	85/85	100/100
Standard attached parts (Front connection)			Mounting screw: M6×35 (4pcs) Insulation barrier: (2pcs)	

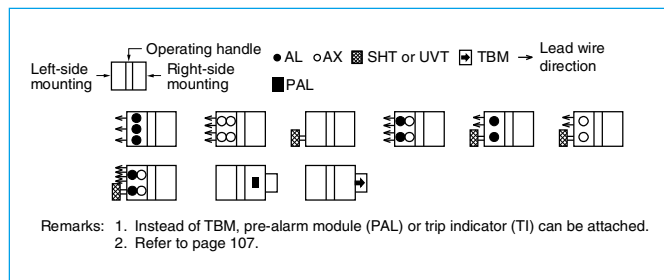
Operating Characteristics



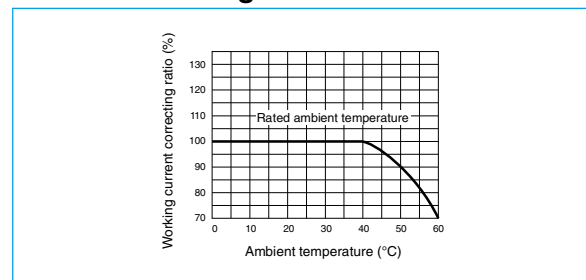
Earth Leakage Tripping Characteristics



Internal Accessories



Current Reducing Curve

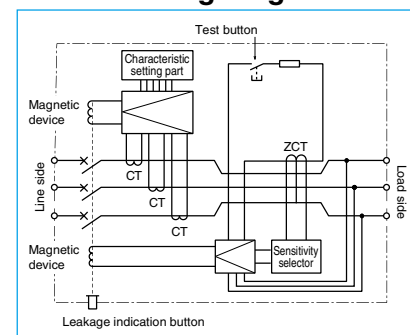


External Accessories

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-8S	117	Auxiliary handle	HT HT-4SW	128
	V V-8S	119	Large terminal cover	TC-L TCL-8SW3	121
Mechanical interlock	MI MI-8SW3	129	Skeleton	TTC TTC-8SW3	
			Rear	BTC BTC-8SW3	127
			Handle lock device	HL HL-4SW	
			Electrical operation device	HL-S HLS-8SW	133

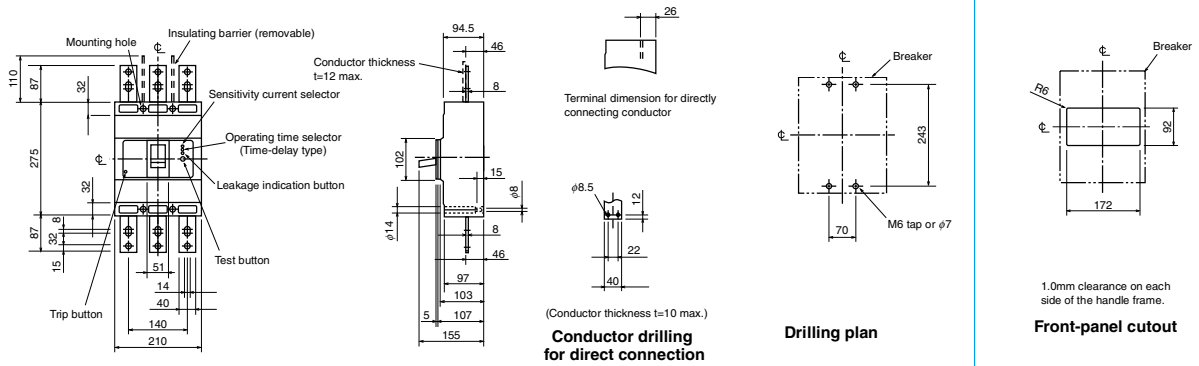
Note *1 Specify the operation method and voltage. Order in combination with the breaker unit.

Internal Wiring Diagram

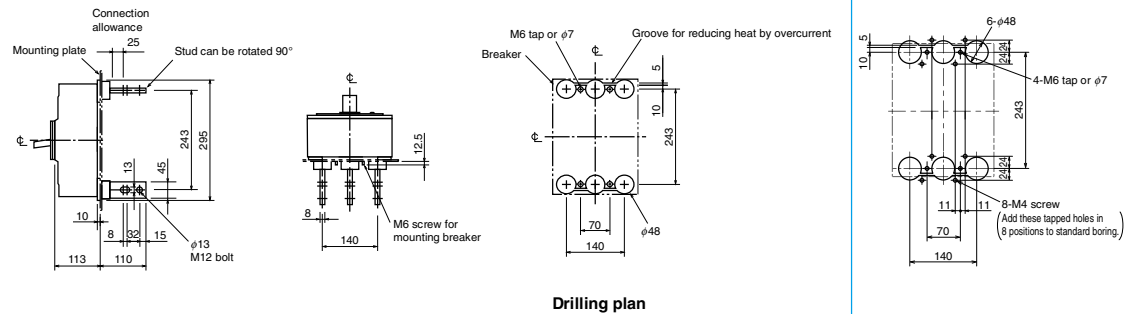


Outline Drawing

Front connection



Rear connection



Note The bore dimensional drawing shows the breaker viewed from the rear.

NF50-SVFU NV50-SVFU

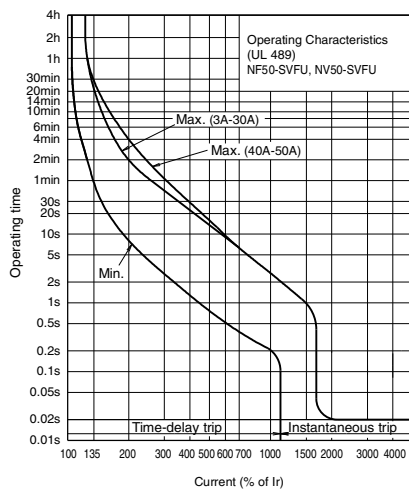


Model			NF50-SVFU		Model		NV50-SVFU			
Rated current In (A) Rated ambient temperature 40°C			(3) 5 10 15 20 30 40 50		Rated current In (A) Rated ambient temperature 40°C		(5) (10) 15 20 30 40 50			
					Number of poles		2	3		
Number of poles			2	3	Phase line		1φ2W	3φ3W 1φ2W		
Rated short-circuit breaking capacity (kA)	UL 489 CSA C22.2 No.5-02	Rated voltage VAC	240		Rated voltage VAC	UL 489		120-240		
		600Y/347V	—			IEC 60947-2 EN 60947-2	100-240	100-440		
		480V	—							
		480Y/277V	—							
		240V	14							
		120V	—		High-speed type	Rated current sensitivity IΔn mA		30 50	30 50 100	
	Pick-up current UL 1053		75% of IΔn							
	Operating time (sec) within AT 5IΔn		0.04 (*1)		Earth-leakage indication system		Indicator window			
	IEC 60947-2 EN 60947-2 (Icu/Ics)	Rated insulation voltage UI V	440		Rated short-circuit breaking capacity (kA)	UL 489 CSA C22.2 No.5-02	AC	480V	—	
		690V	—					240V	14	
		500V	—					120V	14	
		440V	7.5/4					440V	—	7.5/4
		415V	10/5			IEC 60947-2 EN 60947-2 (Icu/Ics)	AC	400V	—	10/5
		400V	10/5					230V	15/8	15/8
380V	10/5		100V	15/8				15/8		
230V	15/8		Standard attached parts (Front connection)			IEC35 rail mounting claws				

Note *1 0.1 for UL1053.
Remark: 1. The mounting screws must be prepared by the user. (Recommended size: M4×0.7×65 (2 pcs).)

Operating Characteristics

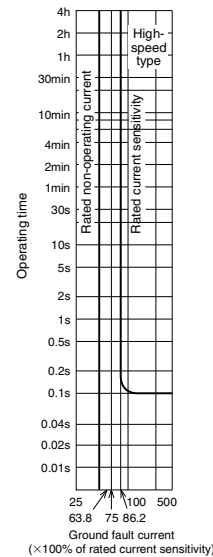
(The CE and CCC characteristics are noted differently. Contact us for more information.)



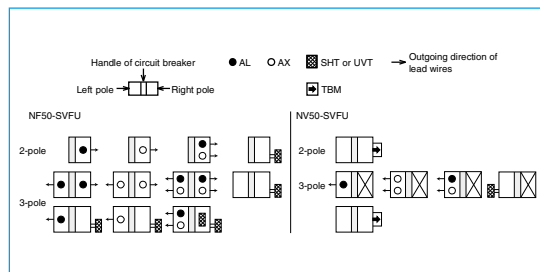
Earth Leakage Tripping Characteristics

(The CE and CCC characteristics are noted differently. Contact us for more information.)

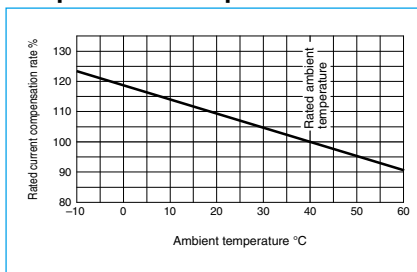
NV50-SVFU (UL 1053)



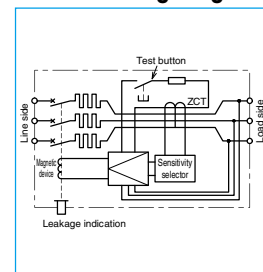
Internal Accessories



Temperature Compensation Curve



Internal Wiring Diagram

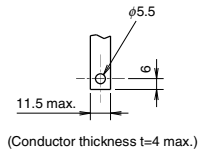
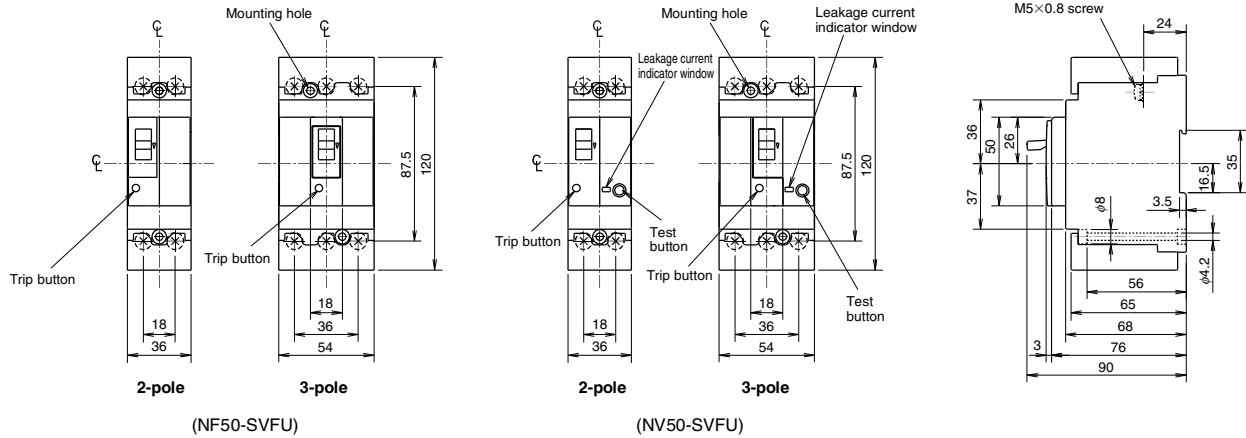


External Accessories

Accessories			Type name	Reference page	Accessories				Type name	Reference page			
Operating handle	F	2P	F-03SVUL2	117	Terminal cover	Large	TC-L	2P	TCL-03SVU2	121			
		3P	F-03SVUL					3P	TCL-03SVU3				
	V	2P	V-03SVUL2	119									
		3P	V-03SVUL										
Handle lock device	HL		HLF-03SVU	127									
	HL-S		HLS-03SVU										

Outline Drawing

Front connection



Conductor drilling for
direct connection

Remarks: 1. The mounting screws are not enclosed with the breaker.
 2. The wires cannot be connected directly.

Compatible crimp terminals Tightening torque 22lb-in (2.5N·m)

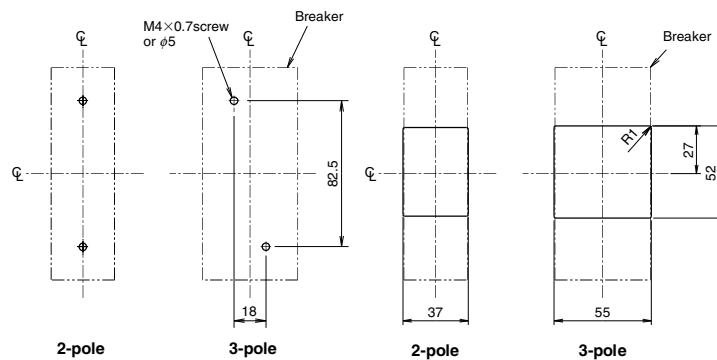
Applicable wire range (*1)		Crimp terminal type (*2)	
mm ²	AWG (#) (60°C/75°C)	JST	NTM
1.04-2.63	16-14	R2-5 2-M5 V2-5 V2-M5	R2-5 R2-5M
2.63-4.6	12	-	R3.5-5S R3.5-5L
2.63-6.64	12-10	R5.5-5 V5.5-5	R5.5-5S R5.5-5N R5.5-5N
6.64-10.52	8	R8-5	R8-5 R8-5S
10.52-16.78	6	R14-5 14-NK5	R14-5 R14-5S
16.78-26.66	4	22-S5 22-S6	R22-5S

JST: Japan Solderless Terminal Mfg. Co.

NTM: Nichifu Co., Ltd.

Notes *1 14AWG or larger to comply with UL Standards.

*2 When using with a wire connection, use the crimp terminal combination shown above.



Drilling plan

Front panel drilling plan

The drilling dimensions have a 1.0 mm clearance on each side of breaker window frame.

NF100-CVFU NV100-CVFU



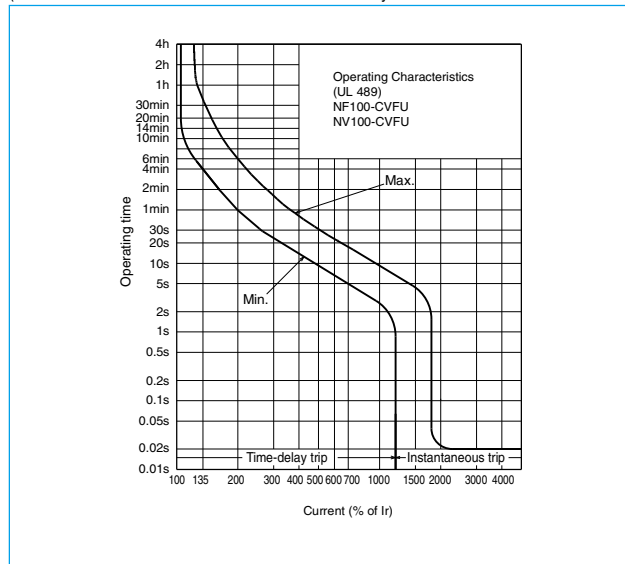
NF100-CVFU

Model			NF100-CVFU		Model			NV100-CVFU				
Rated current In (A) Rated ambient temperature 40°C			60 (70) 75 (80) (90) 100		Rated current In (A) Rated ambient temperature 40°C			60 (70) 75 (80) (90) 100				
					Number of poles			3				
					Phase line			3φ3W 1φ2W				
Number of poles			2 3									
Rated short-circuit breaking capacity (kA)	UL 489 CSA C22.2 No.5-02	AC	Rated voltage VAC	240		Rated voltage VAC	UL 489		120-240			
			600Y/347V	-			IEC 60947-2 EN 60947-2		100-440			
			480V	-								
			480Y/277V	-								
			240V	14								
		120V	-									
		IEC 60947-2 EN 60947-2 (Icu/Ics)	AC	Rated insulation voltage UI V	600		High-speed type	Rated current sensitivity IΔn mA		30/50/ 100/200/500 selectable		
	690V			-		Pick-up current UL 1053		75% of IΔn				
	500V			7.5/4		Operating time (sec) within AT 5IΔn		0.04 (*1)				
	440V			10/5		Earth-leakage indication system		Mechanical button				
	415V			10/5		Rated short-circuit breaking capacity (kA)		UL 489 CSA C22.2 No. 5-02	AC	480V	-	
	400V			10/5						240V	14	
	380V			10/5						120V	14	
	230V			15/8						440V	10/5	
										400V	10/5	
						230V		15/8				
				100V	15/8							
Standard attached parts (Front connection)				IEC35 rail mounting claws, Insulating barrier (2P: 2pcs, 3P: 4pcs) (Only for type with bar terminal) Mounting screw M4×0.7×55 (2 screws)								

Note *1 0.1 for UL1053.

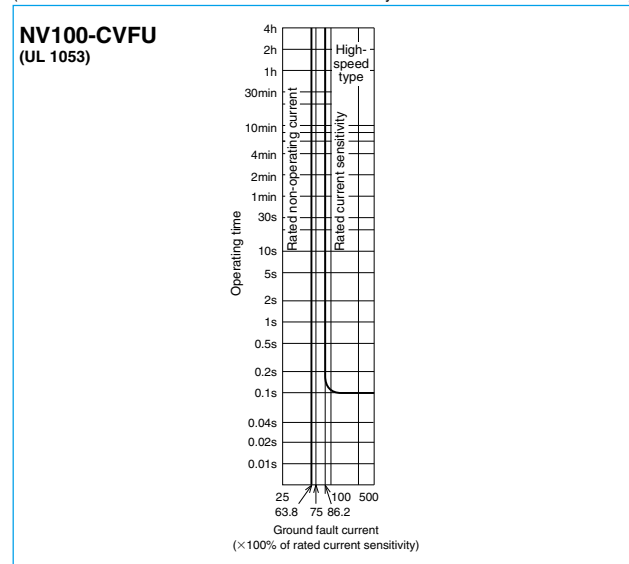
Operating Characteristics

(The CE and CCC characteristics are noted differently. Contact us for more information.)

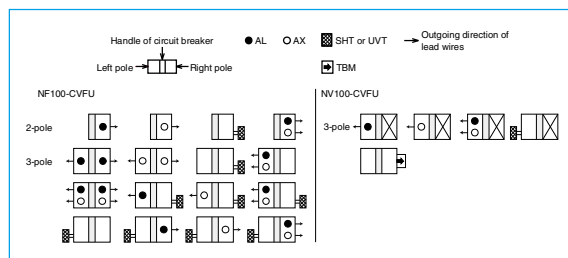


Earth Leakage Tripping Characteristics

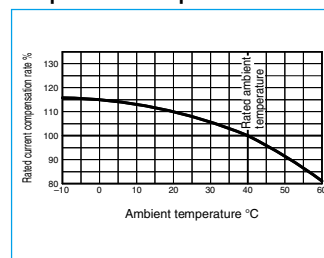
(The CE and CCC characteristics are noted differently. Contact us for more information.)



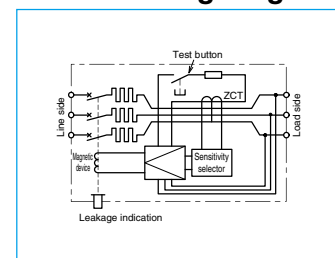
Internal Accessories



Temperature Compensation Curve



Internal Wiring Diagram

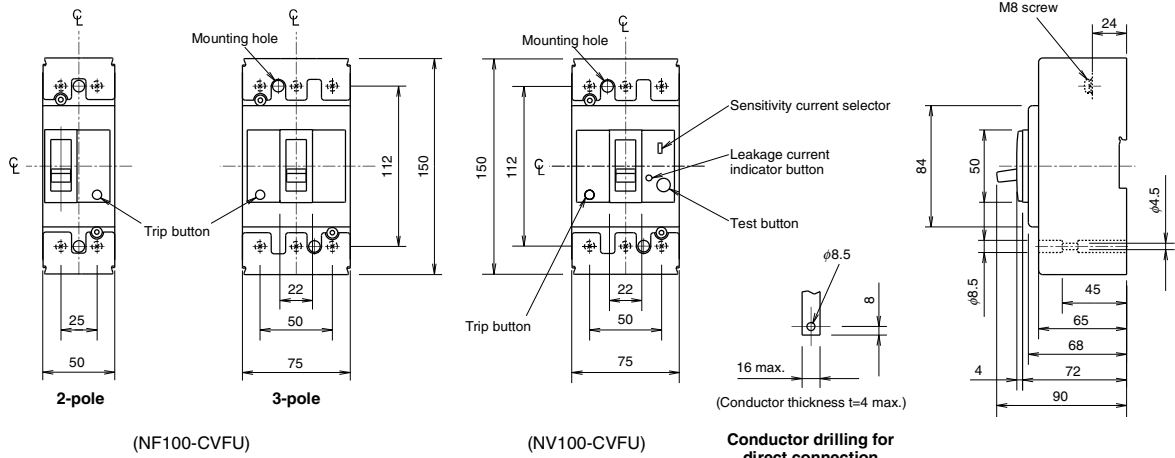


External Accessories

Accessories			Type name	Reference page	Accessories				Type name	Reference page
Operating handle	F	2P	F-05SVUL2	117	Terminal cover	Large	TC-L	2P	TCL-05SVU2	121
		3P	F-05SVUL					TCL-05SVU2L		
	V	2P	V-05SVUL2	119				3P	TCL-05SVU3	
		3P	V-05SVUL						TCL-05SVU3L	
Handle lock device	HL	HLF-05SVU		127						
	HL-S	2P	HLS-05SVU2							
		3P	HLS-05SVU							

Outline Drawing

Front connection



Conductor drilling for direct connection

Compatible crimp terminals

Tightening torque 54lb-in (6N·m)

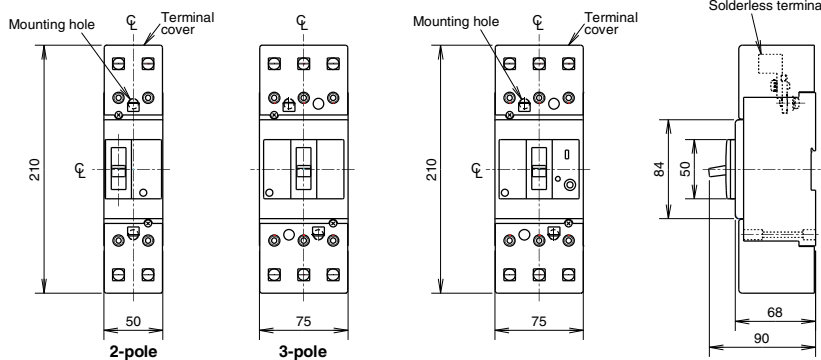
Applicable wire range		Crimp terminal type (*1)	
mm ²	AWG (#) (60°C/75°C)	JST	NTM
2.5-2.63	14	R2-8	R2-8
2.63-6.64	12-10	R5.5-8	R5.5-8
6.64-10.52	8	R8-8	R8-8
10.52-16.78	6	R14-8	R14-8
16.78-26.66	4	R22-8	R22-8S
26.66-42.42	2	38-S8	R38-8S
42.42-60.57	1/0	60-2BA	CB60-8
		60-S8	

JST: Japan Solderless Terminal Mfg. Co.

NTM: Nichifu Co., Ltd.

Note *1 When using with a wire connection, use the crimp terminal combination shown above.

Front connection(solderless terminal)

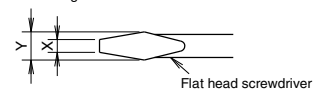


Size of screwdriver with bolting

Please bolt with flat head screwdriver.

The length of X : 6mm-7mm

The length of Y : 9.5mm

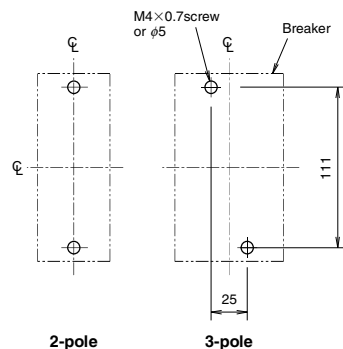


Wire size 60°C/75°C CU ONLY	Number of strands
14AWG	7
12-10AWG	7
8AWG	7
6-4AWG	7
2AWG	7
1-1/0AWG	19

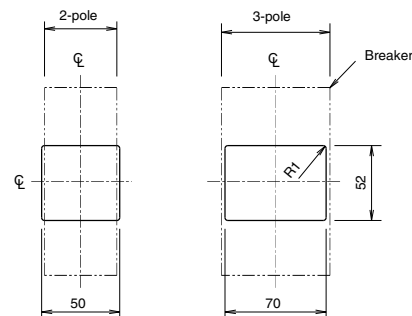
The tightening torque is different according to connected wire.

Refer to instruction manual for details.

Remark: Periodical retightening prevents overheating by the setting of twisted strands or the stress of heating and cooling.



Drilling plan



The drilling dimensions have a 1.0 mm clearance on each side of breaker window frame.

Front panel drilling plan

NF125-SVU NF125-HVU NV125-SVU NV125-HVU

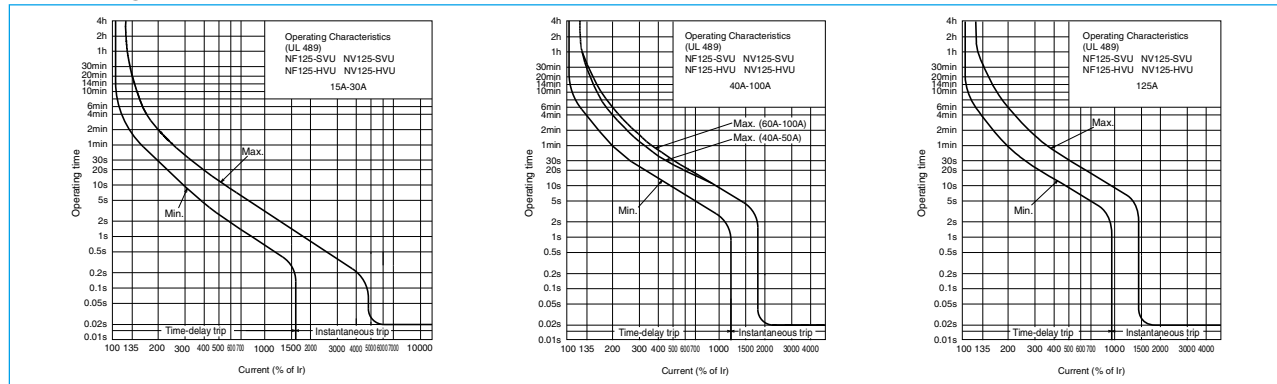


NF125-HVU

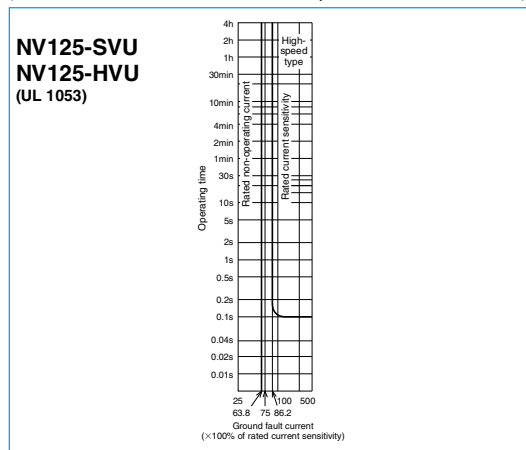
Model		NF125-SVU		NF125-HVU		Model		NV125-SVU		NV125-HVU				
Rated current In (A) Rated ambient temperature 40°C		15 20 30 40 50 60 (70) 75 (80) (90) 100	125	15 20 30 40 50 60 (70) 75 (80) (90) 100	125	Rated current In (A) Rated ambient temperature 40°C		15 20 30 (40) 50 60 75 100	125	15 20 30 (40) 50 60 75 100	125			
						Number of poles		3	3	3	3			
						Phase line		3φ3W 1φ2W	3φ3W 1φ2W	3φ3W 1φ2W	3φ3W 1φ2W			
						Rated voltage VAC		UL 489 IEC 60947-2 EN 60947-2	120-480	120-480	120-480	120-480		
Number of poles		2	3	2	3	3	3							
UL 489 CSA C22.2 No.5-02		Rated voltage VAC	480	480	600Y/347V	600Y/347V	High-speed type	Rated current sensitivity IΔn mA		3050/ 100/200/500 selectable	3050/ 100/200/500 selectable	3050/ 100/200/500 selectable	3050/ 100/200/500 selectable	
			600Y/347V	—	—	18		18	Pick-up current UL 1053		75% of IΔn	75% of IΔn	75% of IΔn	75% of IΔn
			480V	30	30	50		50	Operating time (sec) within AT 51Δn		0.04 (*1)	0.04 (*1)	0.04 (*1)	0.04 (*1)
			240V	50	50	100		100						
		120V	—	—	—	—								
		Rated insulation voltage U _i V		690	690	690	690	Earth-leakage indication system		Mechanical button	Mechanical button	Mechanical button	Mechanical button	
IEC 60947-2 EN 60947-2 (Icu/Ics)		Rated short-circuit breaking capacity (kA)	690V	8/4	8/4	10/5	10/5	UL 489 CSA C22.2 No.5-02	AC	480V	30	30	50	50
			500V	18/9	18/9	25/13	25/13			240V	50	50	100	100
			440V	30/15	30/15	50/25	50/25			120V	50	50	100	100
			415V	30/15	30/15	50/25	50/25			440V	30/15	30/15	50/25	50/25
			400V	30/15	30/15	50/25	50/25	400V	30/15	30/15	50/25	50/25		
			380V	30/15	30/15	50/25	50/25	230V	50/25	50/25	100/50	100/50		
230V	50/25	50/25	100/50	100/50	100V	50/25	50/25	100/50	100/50					
Standard attached parts (Front connection)		Mounting screw M4×0.7×55 (2 screws), Insulating barrier (2P: 2pcs, 3P: 4pcs)												

Note *1 0.1 for UL1053.

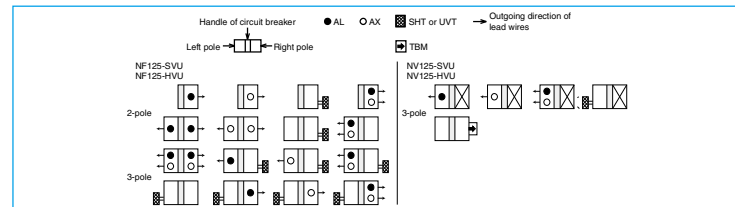
Operating Characteristics (The CE and CCC characteristics are noted differently. Contact us for more information.)



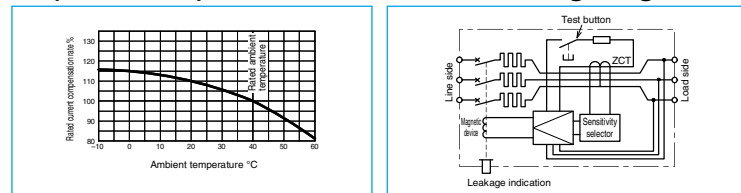
Earth Leakage Tripping Characteristics (The CE and CCC characteristics are noted differently. Contact us for more information.)



Internal Accessories



Temperature Compensation Curve Internal Wiring Diagram

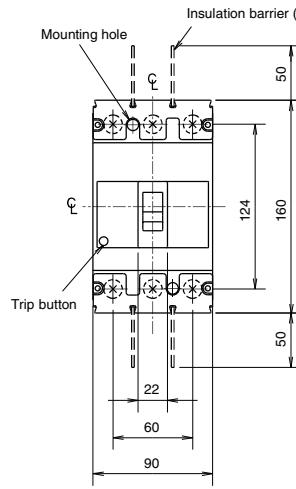


External Accessories

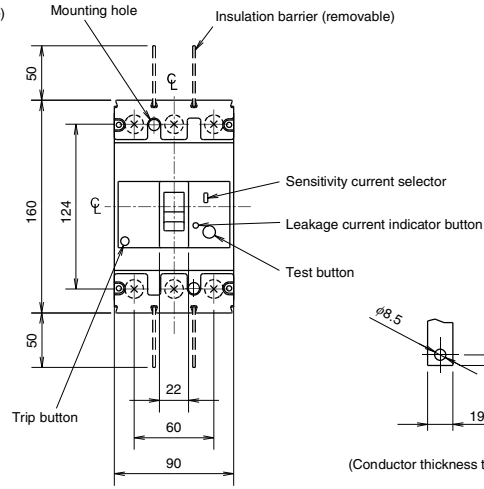
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-1SVUL	117	Terminal cover	Large TC-L	121
	V V-1SVUL	119		TCL-1SVU3	
Handle lock device	HL HLF-05SVU	127			
	HL-S HLS-05SVU				

Outline Drawing

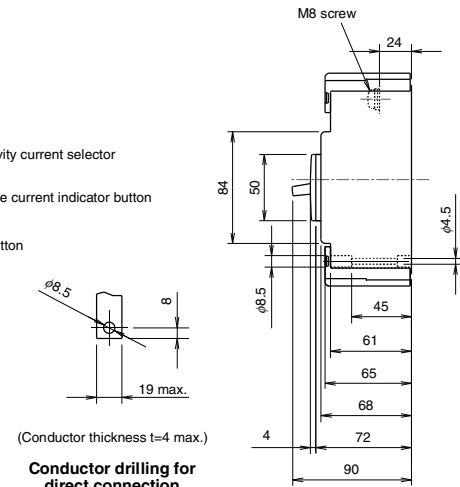
Front connection



(NF125-SVU, NF125-HVU)



(NV125-SVU, NV125-HVU)



Conductor drilling for direct connection

Compatible crimp terminals

Tightening torque 54lb-in (6N·m)

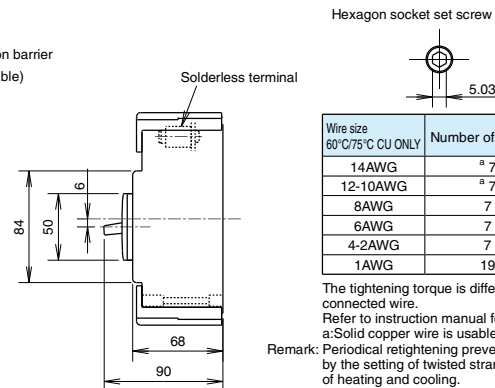
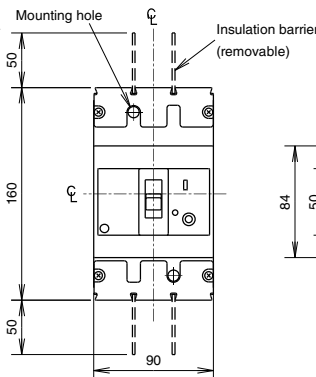
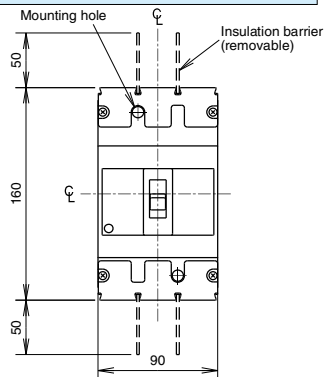
Applicable wire range		Crimp terminal type (*1)	
mm ²	AWG (#) (60°C/75°C)	JST	NTM
2.5-2.63	14	R2-8	R2-8
2.63-6.64	12-10	R5.5-8	R5.5-8
6.64-10.52	8	R8-8	R8-8
10.52-16.78	6	R14-8	R14-8S
16.78-26.66	4	R22-8	R22-8S
26.66-42.42	2	38-S8	R38-8S
42.42-60.57	1/0	60-2BA 60-S8	CB60-8

JST: Japan Solderless Terminal Mfg. Co.

NTM: Nichifu Co., Ltd.

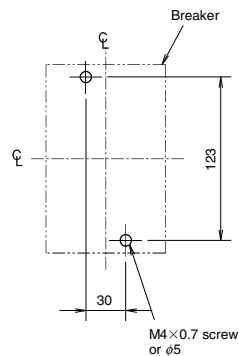
Note *1 When using with a wire connection, use the crimp terminal combination shown above.

Front connection (solderless terminal)

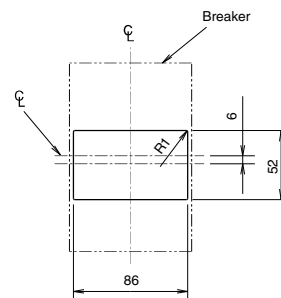


Wire size 60°C/75°C CU ONLY	Number of strands
14AWG	a 7
12-10AWG	a 7
8AWG	7
6AWG	7
4-2AWG	7
1AWG	19

The tightening torque is different according to connected wire. Refer to instruction manual for details. a: Solid copper wire is usable. Remark: Periodical retightening prevents overheating by the setting of twisted strands or the stress of heating and cooling.



Drilling plan



The drilling dimensions have a 1.0 mm clearance on each side of breaker window frame.

Front panel drilling plan

Remark: 1. 2-pole models are 3-pole with the central pole conductor removed.

NF225-CWU



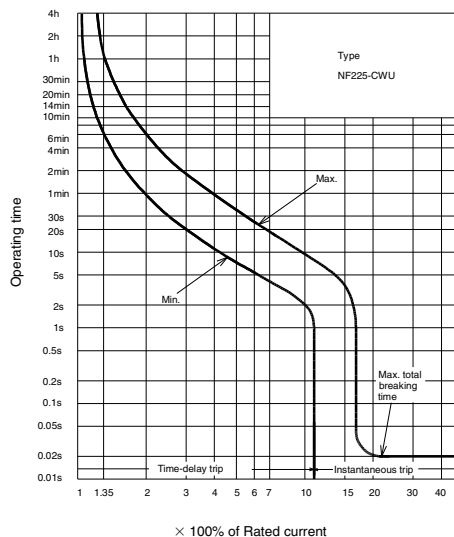
NF225-CWU

Model			NF225-CWU		
Rated current In (A) at ambient temperature 40°C (IEC30°C)			125	150 175 200 225	
Number of poles			3		
Rated short-circuit breaking capacities (kA)	UL 489	Rated voltage (VAC)	240		
		AC	240V		
	IEC 60947-2 (Icu/Ics)	Rated insulation voltage Ui (V)		600	
		AC	500V	10/5	
			440V	15/8	
			400V	18/9	
			230V	35/18	
		DC	250V	10/5 (*1)	
Standard attached parts			Mounting screw: M4×0.7×55 (2pcs) Insulation barrier: (4pcs), Terminal cover: (1 set) (*2)		

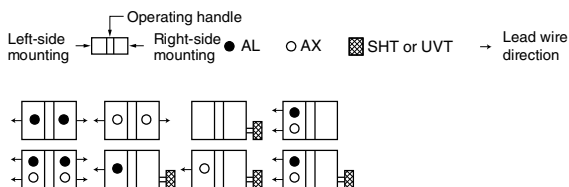
Notes *1 Use either two poles. When wired as shown at the bottom of page 32, the models can be used for up to 400 V DC.

*2 The standard configuration contains a protection cover and adopts the IP20 (finger protection) structure.

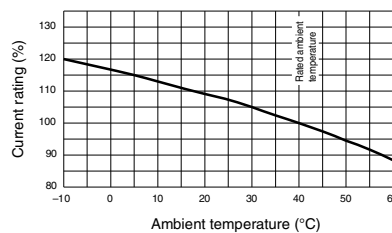
Operating Characteristics



Internal Accessories



Temperature Compensation Curve

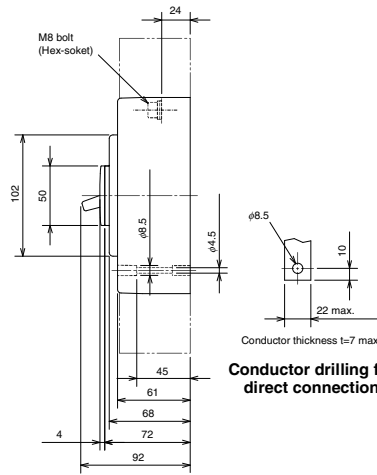
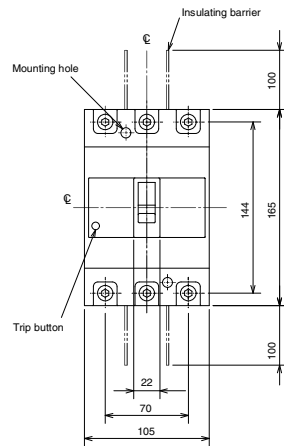


External Accessories

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-2SUL	117	Mechanical interlock	MI MI-05SWU3	129
	V V-2SUL	119		TCL-2SWU3	121
Handle lock device	HL HLF-2SWU	127	Terminal cover	Large TC-L	121
				TCL-2SWU3L	

Outline Drawing

Front connection



Compatible crimp terminals

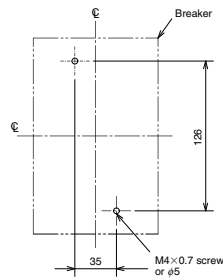
Tightening torque 90lb-in (10N.m)

Applicable wire range		Crimp terminal type (*1)	
mm ²	AWG (#) (60°C/75°C)	JST	NTM
16.78-26.66	4	R22-8 22-S8	R22-8 R22-8S CB22-8S
26.66-42.42	2	R38-8 38-S8	R38-8 R38-8S
42.42-60.57	1/0	R60-8 60-2BA CB60-S8	R60-8 CB60-8 CB60-8S
60.57-76.28	2/0	70-8	R70-8
76.28-96.3	3/0	80-3BA CB80-S8	
96.3-117.2	4/0	100-3BA CB100-S8	

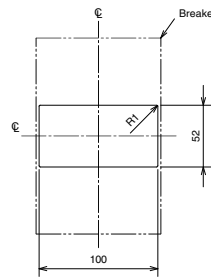
JST: Japan Solderless Terminal Mfg. Co.

NTM: Nichifu Co., Ltd.

Notes *1 When using with a wire connection, use the crimp terminal combination shown above.



Drilling plan



Front cover cutout

1mm clearance on each side of handle

NF250-SVU NF250-HVU NV250-SVU NV250-HVU

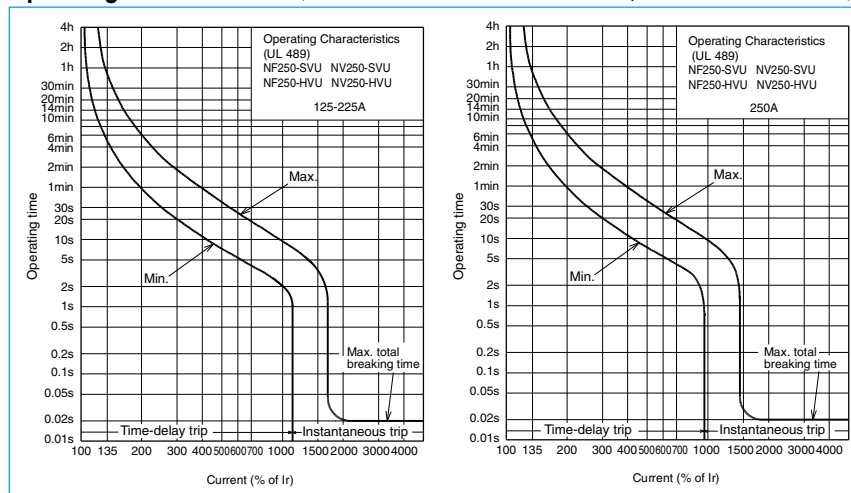


NF250-HVU

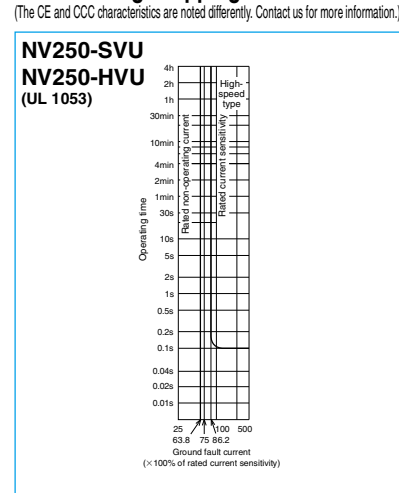
Model		NF250-SVU		NF250-HVU		Model		NV250-SVU		NV250-HVU	
Rated current I _n (A) Rated ambient temperature 40°C		125 150 175 200 225	250	125 150 175 200 225	250	Rated current I _n (A) Rated ambient temperature 40°C		125 150 175 200 225	250	125 150 175 200 225	250
Number of poles		3	3	3	3	Number of poles		3	3	3	3
Phase line		3ø3W 1ø2W	3ø3W 1ø2W	3ø3W 1ø2W	3ø3W 1ø2W	Phase line		3ø3W 1ø2W	3ø3W 1ø2W	3ø3W 1ø2W	3ø3W 1ø2W
Rated voltage VAC		480 600Y/347V	480 600Y/347V	600Y/347V 600Y/347V	600Y/347V 600Y/347V	Rated voltage VAC		100-440	100-440	100-440	100-440
UL 489 CSA C22.2 No.5-02		AC	AC	AC	AC	UL 489 CSA C22.2 No.5-02		AC	AC	AC	AC
Rated short-circuit breaking capacity (kA)		600Y/347V 480V 240V 120V	— 35 65 —	— 35 65 —	18 50 100 —	Rated short-circuit breaking capacity (kA)		30/50/ 100/200/500 selectable	30/50/ 100/200/500 selectable	30/50/ 100/200/500 selectable	30/50/ 100/200/500 selectable
Rated insulation voltage U _i V		690V	8/4	8/4	10/5	Rated insulation voltage U _i V		690V	8/4	8/4	10/5
IEC 60947-2 EN 60947-2 (Icu/Ics)		500V	25/13	25/13	36/18	IEC 60947-2 EN 60947-2 (Icu/Ics)		500V	25/13	25/13	36/18
Standard attached parts (Front connection)		440V	36/18	36/18	50/25	Standard attached parts (Front connection)		440V	36/18	36/18	50/25
Mounting screw M4×0.7×55 (2 screws), Insulating barrier (4pcs)		400V	36/18	36/18	50/25	Mounting screw M4×0.7×55 (2 screws), Insulating barrier (4pcs)		400V	36/18	36/18	50/25
Note *1 0.1 for UL1053.		380V	36/18	36/18	50/25	Note *1 0.1 for UL1053.		380V	36/18	36/18	50/25
		230V	65/33	65/33	100/50			230V	65/33	65/33	100/50

Note *1 0.1 for UL1053.

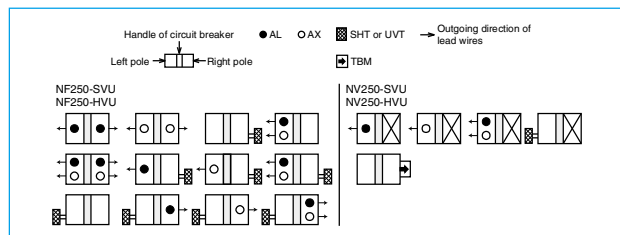
Operating Characteristics (The CE and CCC characteristics are noted differently. Contact us for more information.)



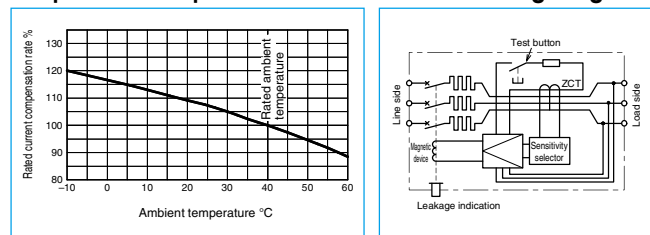
Earth Leakage Tripping Characteristics (The CE and CCC characteristics are noted differently. Contact us for more information.)



7 Internal Accessories



Temperature Compensation Curve Internal Wiring Diagram



External Accessories

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-2SVUL	117	Terminal cover	Large TC-L	121
	V V-2SVUL	119		TCL-2SVU3 TCL-2SVU3L	
Handle lock device	HL HLF-05SVU	127			
	HL-S HLS-2SVU				