

6. Characteristics and Dimensions

Molded-Case Circuit Breakers and Motor Breakers

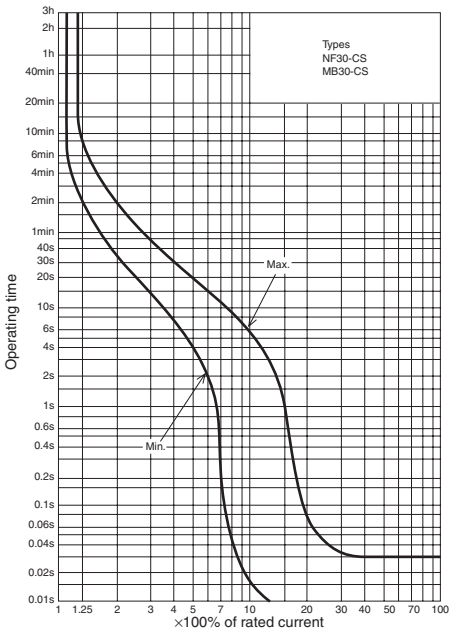
NF30-CS
MB30-CS



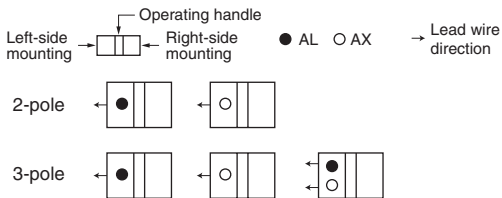
Type NF30-CS

Series				C series			
Frame size				30			
Type name				NF30-CS		MB30-CS	
Rated current In (Amp.)				3, 5, 10, 15, 20, 30		(2), (3.2), 4, (5), 6.3, (8), 10, 16	1.4, 2.5, 4, 7.1, 10, 16, 25, 32
Number of poles				2	3	2 (for single phase)	3
Rated insulation voltage Ui (V)				500			
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	—			
			500V	—			
			415V	1.5/1.5			
			380V	1.5/1.5			
			240V	2.5/2			
Standard Attached Parts (Front connection)			Mounting screw: M4×0.7×20 (2pcs) Small terminal cover 2pcs Only MB30-CS				

Operating Characteristics

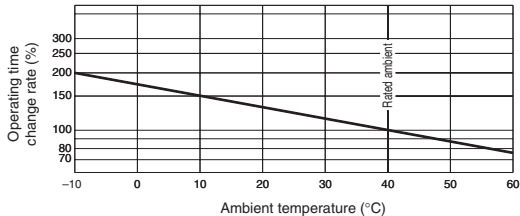


Internal Accessories



Remark: 1. Standard lead wire is drawn from side. However, lead wire drawn by load can be produced upon request.
2. Refer to page 48.

Temperature Characteristics

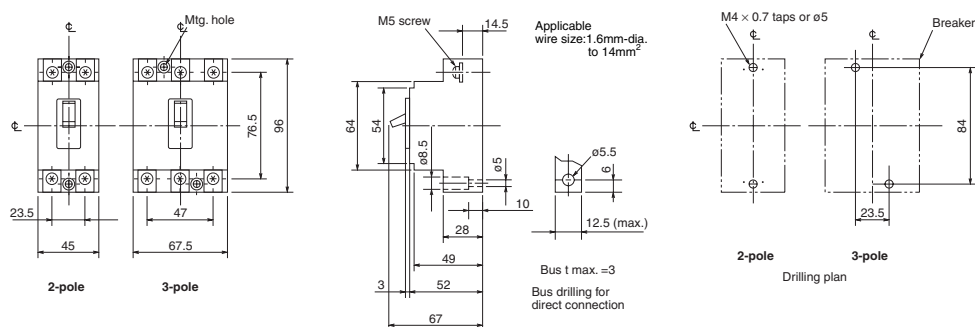


External Accessories

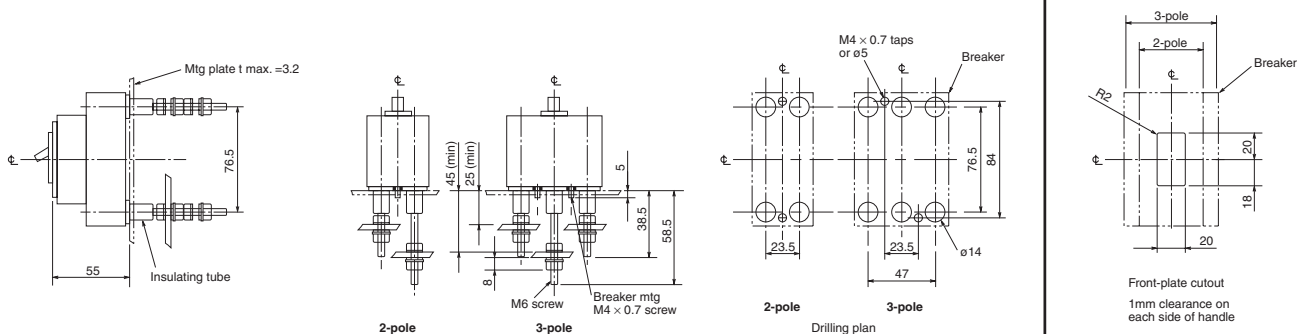
Accessories		Type name	Reference page
Terminal cover	Small	(TC-S) TCS-03CS3W (*1)	70
	Large	(TC-L) TCL-03CS3W (*1)	
	Rear	(BTC) BTC-03CS3W (*1)	
	Skeleton	(TTC) TTC-03CS (*1)	
Handle lock		(HL) HL-05FH	80
Lock cover		(LC) LC03CS	80
Rail mounting adapters		(DIN) DIN-03CS	80

Note (*1) The designation depends on the number of poles. Refer to the reference page.

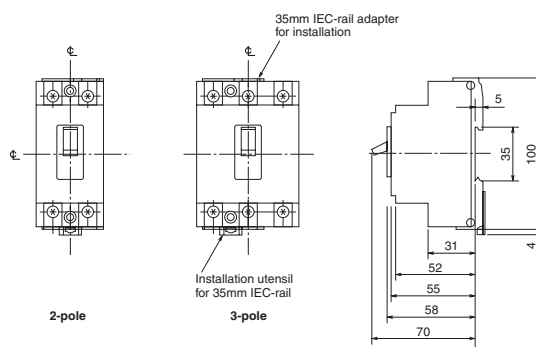
Front connection



Rear connection



IEC Rail Mounting Adapter



6. Characteristics and Dimensions

Molded-Case Circuit Breakers and Motor Breakers

NF32-SW **NF63-CW**
NF63-SW **NF63-HW**
MB30-SW **MB50-CW**
MB50-SW

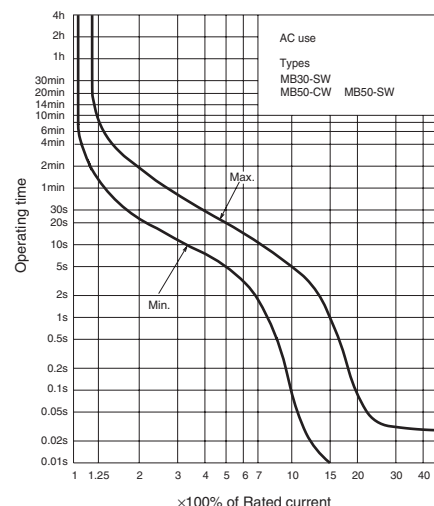
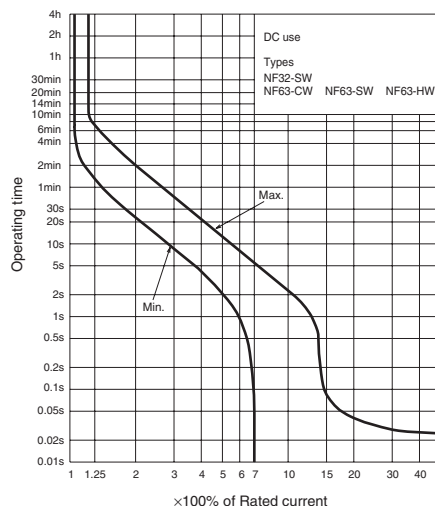
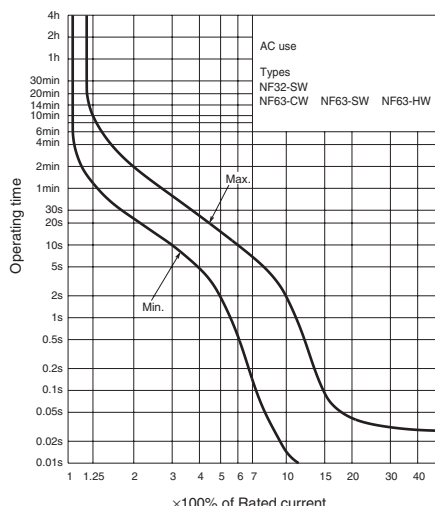


Type NF63-SW

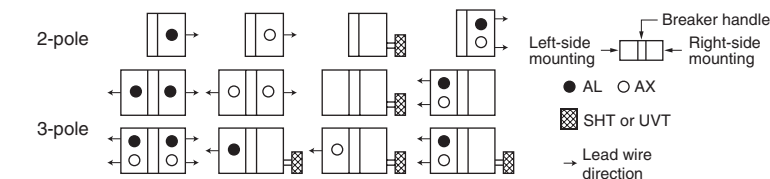
Type name				NF32-SW		NF63-CW		NF63-SW		NF63-HW		MB30-SW		MB50-CW		MB50-SW	
Rated current In (Amp.)				3 4 (5) 6 10 (15) 16 20 25 (30) 32		3 4 (5) 6 10 (15) 16 20 25 (30) 32 40 50 (60) 63		3 4 (5) 6 10 (15) 16 20 25 (30) 32 40 50 (60) 63		10 (15) 16 20 25 (30) 32 40 50 (60) 63		0.8 1.2 1.4 2 2.5 4 5 7.1 8 10 12 16 25 32		8 10 12 16 25 32 40 45		0.8 1.2 1.4 2 2.5 4 5 7.1	
Number of poles				2 (*1) 3		2 (*1) 3		2 (*1) 3 4		2 (*1) 3 4		3		3		3	
Rated insulation voltage Ui (V)				600		600		600		690		500		500		500	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	—		—		—		2.5/1		—		—		—	
			500V	2.5/1		2.5/1		7.5/4		7.5/4		—		—		—	
			440V	2.5/1		2.5/1		7.5/4		10/5		2.5/1		2.5/1		7.5/4	
			400V	5/2		5/2		7.5/4		10/5		5/2		5/2		7.5/4	
			230V	7.5/4		7.5/4		15/8		25/13		7.5/4		7.5/4		15/8	
	DC	250V	2.5/1	—	2.5/1	—	7.5/4	—	7.5/4	—	—		—		—		
Standard Attached Parts (Front connection)				Mounting screw: M4×0.7×55 (2 and 3P: 2pcs, 4P: 4pcs) Insulation barrier: (2P: 1pc, 3P: 2pcs, 4P: 3pcs) (*2)													

Note (*1) Types of DC specifications can be produced upon request.
(*2) These are supplied with NF63-SW, NF63-HW, and MB50-SW models.

Operating Characteristics

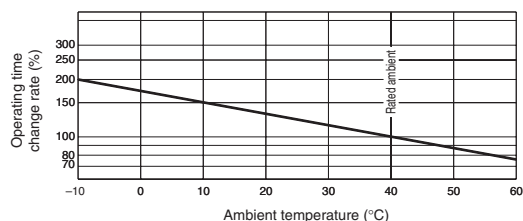


Internal Accessories



Remark: 1. Refer to page 48.

Temperature Characteristics

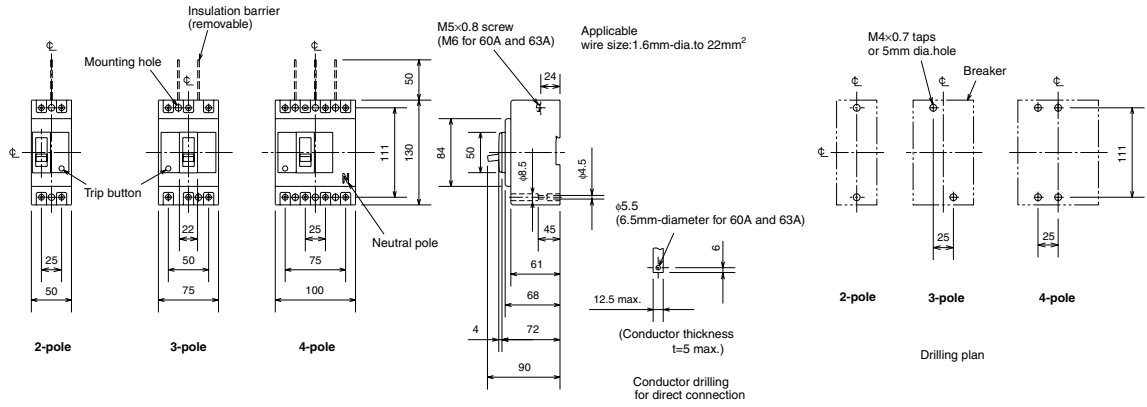


External Accessories

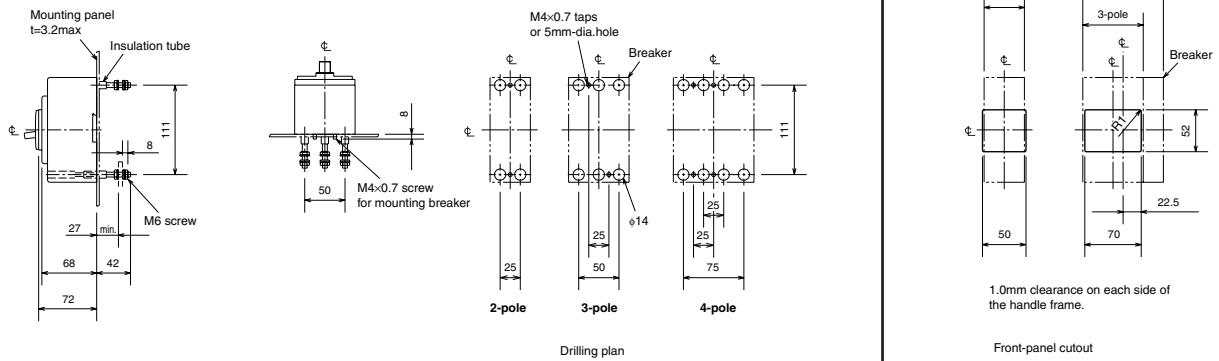
Accessories		Type name	Reference page	Accessories		Type name	Reference page	
Operating handle	F	F-05S (*1)	61	Mechanical interlock	MI	MI-05SW3 (*1)	79	
	V	V-05S	64					
	S	S05SW	68	Terminal cover	Small	TC-S	TCS-05SW3W (*1)	70
Handle lock device	LC	LC-05SW	80		Large	TC-L	TCL-05SW3W (*1)	
	(※2) HLF	HLF-05SW			Skeleton	TTC	TTC-05SW3 (*1)	
	HLN	HLN-05SW			Rear	BTC	BTC-05SW3W (*1)	
	HL-S	HLS-05SW (*1)			Plug-in	PTC	PTC-05SW3W (*1)	
				IEC 35mm rail mounting adapters (option)		DIN-05SW	80	

Note (*1) The designation depends on the number of poles. Refer to the reference page.
(*2) HLF types are used for OFF-lock, and HLN types for ON-lock.

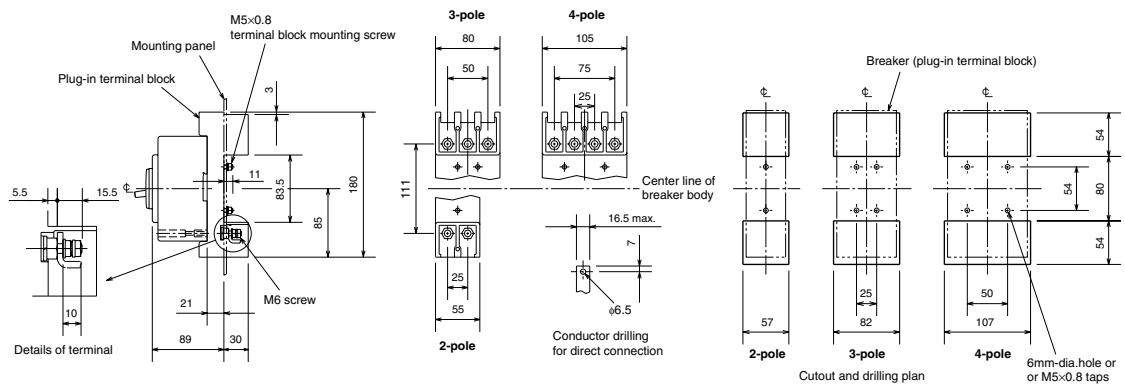
Front connection



Rear connection



Plug-in



6. Characteristics and Dimensions

Molded-Case Circuit Breakers and Motor Breakers

NF125-CW NF125-SW
NF125-HW MB100-SW



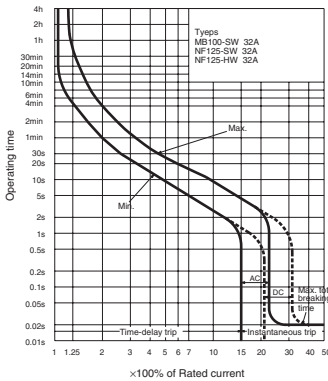
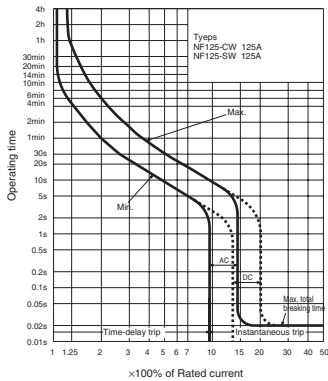
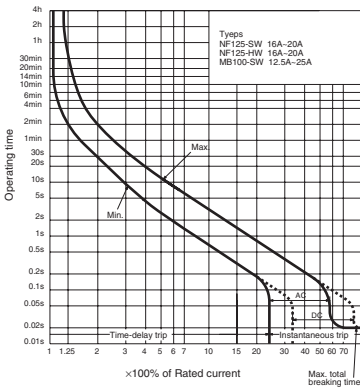
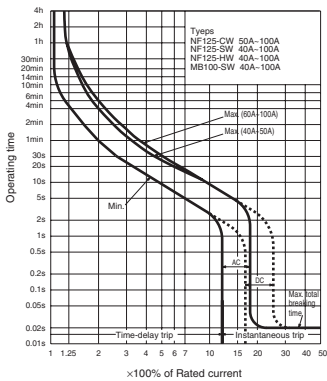
Type NF125-SW

Type name				NF125-CW			NF125-SW			NF125-HW			MB100-SW			
Rated current In (Amp.)				50 (60) 63 (75) 80 100 125			(15) 16 20 (30) 32 40 50 (60) 63 (75) 80 100 125			(15) 16 20 (30) 32 40 50 (60) 63 (75) 80 100			(12.5) (16) (25) 32 (40) 45 63 71 90 100			
Number of poles				2		3		2		3		4		3		
Rated insulation voltage Ui (V)				600			690			690			500			
Rated short-circuit braking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	—			8/4			10/5			—			
			500V	7.5/4			18/9			30/15			—			
			440V	10/5			25/13			50/25			25/13			
			400V	10/5			30/15			50/25			30/15			
			230V	30/15			50/25			100/50			50/25			
		DC (*1)	250V	7.5/4	—		15/8	—		40/20	—		—			
			400V	—	7.5/4		—	15/8	—		40/20	—		—		
			500V	—			—			15/8	—		40/20	—		
Standard Attached Parts (Front connection)				Mounting screw: M4×0.7×55 (2 and 3P: 2pcs, 4P: 4pcs) Insulation barrier: (2P: 1pc, 3P: 2pcs, 4P: 3pcs) (*2)												

Note (*1) When wired as shown at the bottom of page 13, 3-pole models can be used for up to 400 V DC, and 4-pole models for up to 500 V DC.

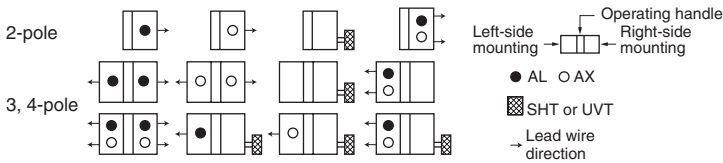
(*2) These are supplied with NF125-SW, NF125-HW, and MB100-SW models.

Operating Characteristics



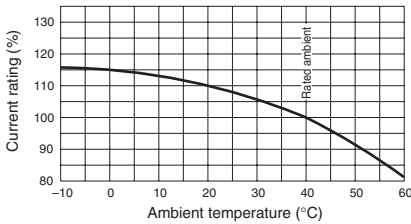
Remark: 1. Only AC characteristics are available for the model MB100-SW.

Internal Accessories



Remark: 1. Refer to page 48.

Ambient Compensating Curve



External Accessories

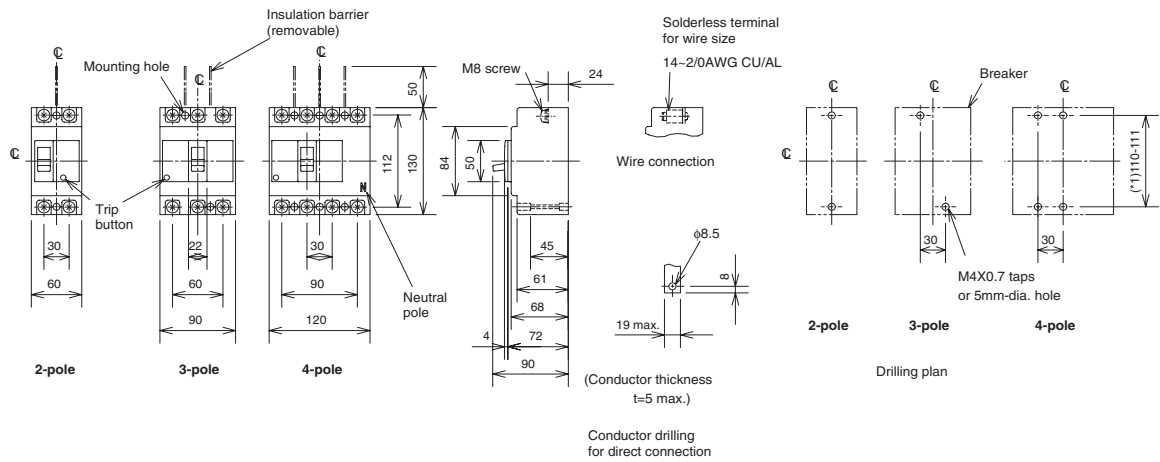
Accessories		Type name	Reference page	Accessories		Type name	Reference page			
Operating handle	F	F-1S (*1)	61	Terminal cover	Mechanical interlock	MI	MI-05SW3 (*1)	79		
	V	V-1S	64		Small	TC-S	TCS-1SW3W (*1)	70		
	S	S1SW	68			Large	TC-L		TCL-1SW3W (*1)	
Handle lock device	LC	LC-1SW	80				Skeleton		TTC	TTC-1SW3 (*1)
	(※2)	HLF-1SW							Rear	BTC
	HL	HLN-1SW				Pulg-in				PTC
	HL-S	HLS-1SW (*1)(※2)					IEC 35mm rail mounting adapters			DIN-1SW3 (*1)
				Electrical operation device		MDS-NF1SWE (*3)	71			

Note (*1) The designation depends on the number of poles. Refer to the reference page.

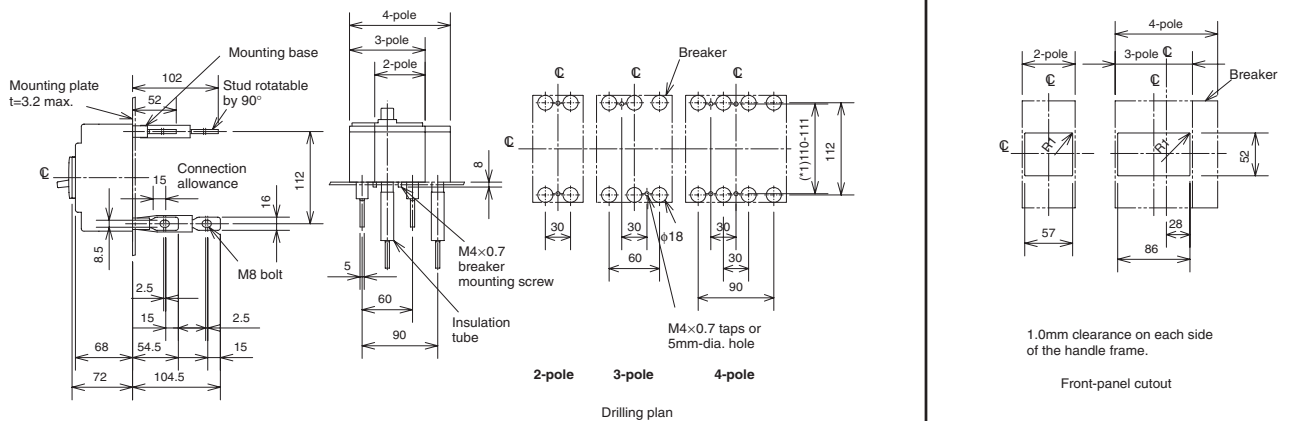
(*)2 Specify the working voltage. An order should be placed at the same time as an order of circuit breaker main body.

(*)3 HLF and HLS types are used for OFF-lock, and HLN types for ON-lock.

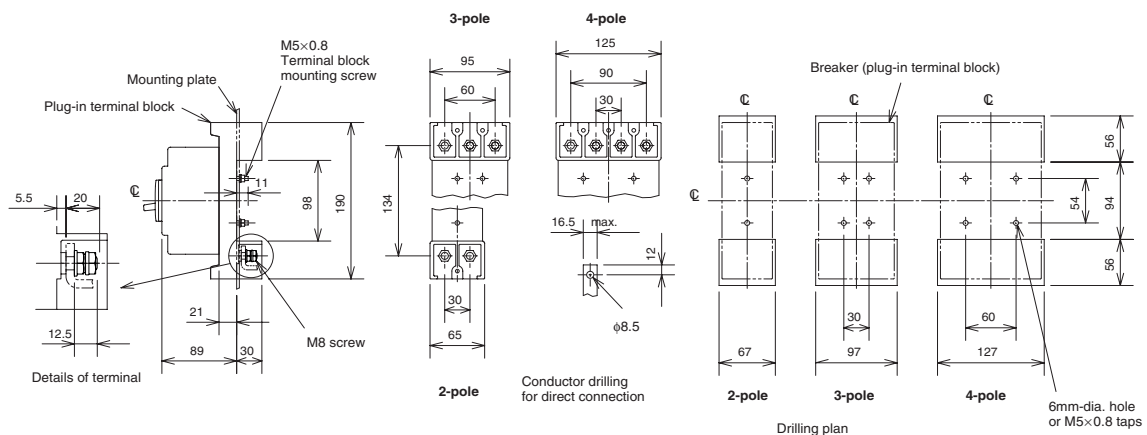
Front connection



Rear connection



Plug-in



Note (*1) It can respond to the attachment size of 110 and 111 both sides.

Remark: 1. 2-pole model of NF125-HW are 3-pole model with the central pole removed.

6. Characteristics and Dimensions

Molded-Case Circuit Breakers and Motor Breakers

NF250-CW **NF250-SW**
NF250-HW **NF160-SW**
NF160-HW **MB225-SW**

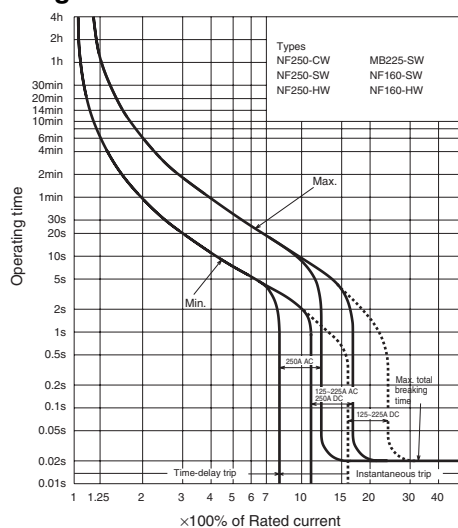


Type NF250-SW

Type name				NF160-SW			NF160-HW			NF250-CW			NF250-SW			NF250-HW			MB225-SW		
Rated current In (Amp.)				125 150 160			125 150 160			(100) 125 150 175 200 225 250			(100) 125 150 175 200 225 250			125 150 175 200 225 250			125 150 175 200 225 250		
Number of poles				2	3	4	2	3	4	2	3	2	3	4	2	3	4	3			
Rated insulation voltage Ui (V)				690			690			600			690			690			500		
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	—			5/3			—			—			5/3			—		
			500V	15/8			30/8			10/5			15/8			30/8			—		
			440V	25/13			50/13			15/8			25/13			50/13			25/13		
			400V	30/15			50/13			18/9			30/15			50/13			30/15		
			230V	50/25			100/25			35/18			50/25			100/25			50/25		
	DC (*1)	250V	15/8	—	40/20	—	10/5	—	15/8	—	40/20	—	—	—	—	—	—	—			
		400V	—	15/8	—	—	40/20	—	—	10/5	—	15/8	—	—	40/20	—	—	—			
		500V	—	15/8	—	40/20	—			—			15/8	—	40/20	—					
	Standard Attached Parts (Front connection)				Mounting screw: M4×0.7×55 (2 and 3P: 2pcs, 4P: 4pcs) Insulation barrier: (2P: 2pcs, 3P: 4pcs, 4P: 6pcs)																

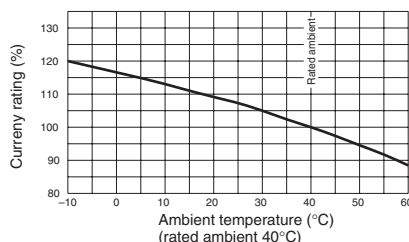
Note (*1) When wired as shown at the bottom of page 13, 3-pole models can be used for up to 400 V DC, and 4-pole models for up to 500 V DC.

Operating Characteristics

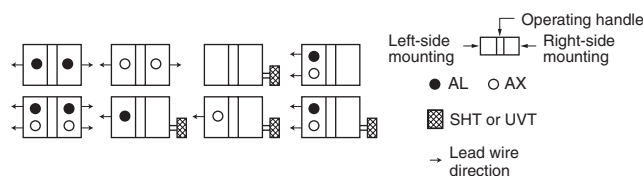


Remark: 1. Only AC characteristics are available for the model MB225-SW.
2. Refer to page 48.

Ambient Compensating Curve



Internal Accessories

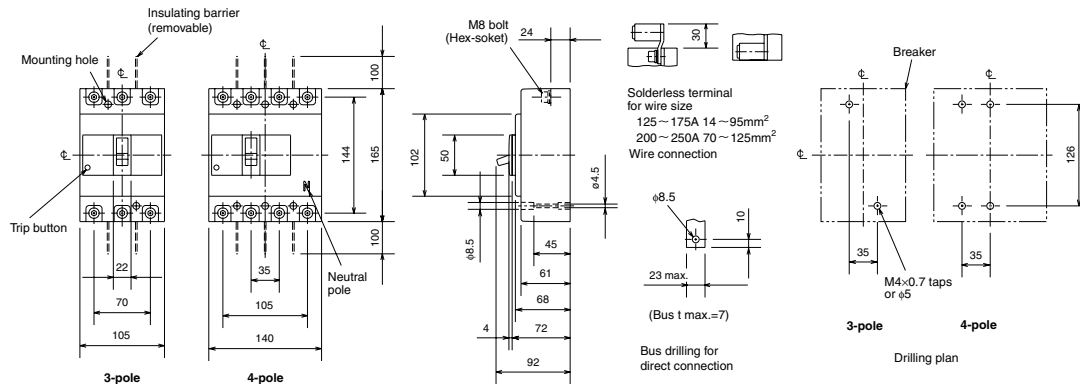


External Accessories

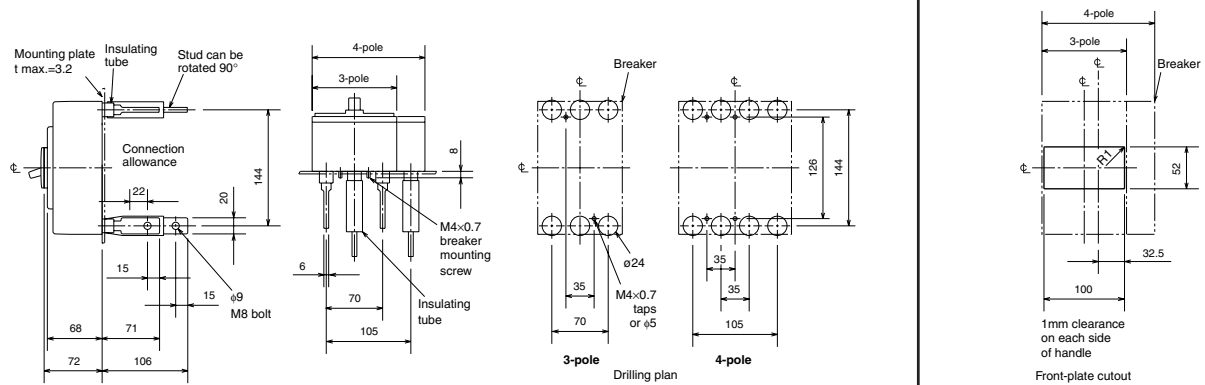
Accessories		Type name	Reference page	Accessories		Type name	Reference page		
Operating handle	F	F-2S	61	Terminal cover	Mechanical interlock	MI	MI-05SW3 (*1)	79	
	V	V-2S	64						
	S	S2SW	68						
Handle lock device	LC	LC-2SW	80			Small	TC-S	TCS-2SW3W (*1)	70
	(*3) HL	HLF-2SW				Large	TC-L	TCL-2SW3W (*1)	
		HLN-2SW			Skeleton	TTC	TTC-2SW3 (*1)		
		HLS		HLS-2SW		Rear	BTC	BTC-2SW3W (*1)	
					Plug-in	PTC	PTC-2SW3W (*1)		
					Electrical operation device		MDS-NF2SWE (*2)	71	

Note (*1) The designation depends on the number of poles. Refer to the reference page.
(*2) Specify the working voltage. An order of MB225-SW should be placed at the same time as an order of circuit breaker main body.
(*3) HLF types are used for OFF-lock, and HLN types for ON-lock.

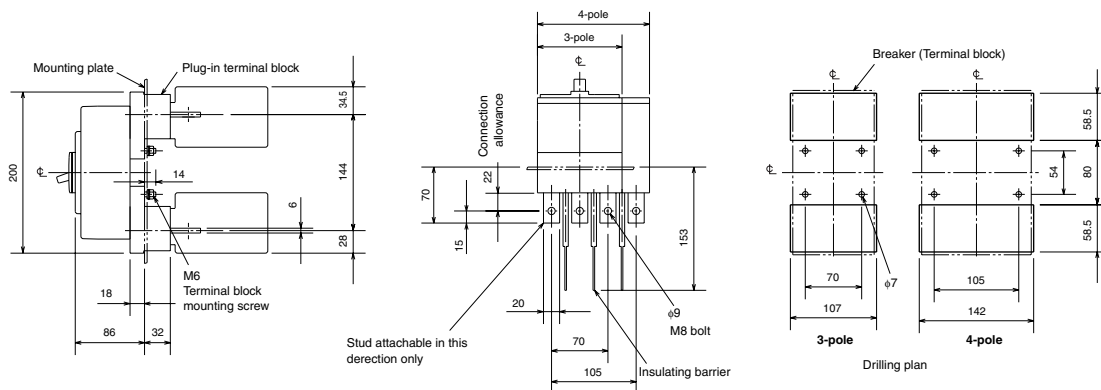
Front connection



Rear connection



Plug-in



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

2. Only 2- and 3-pole models are available for the model of NF250-CW, and only 3-pole models are available for the model of MB225-SW.

6. Characteristics and Dimensions

Molded-Case Circuit Breakers

NF250-SGW NF250-HGW
NF160-SGW NF160-HGW
NF125-SGW NF125-HGW



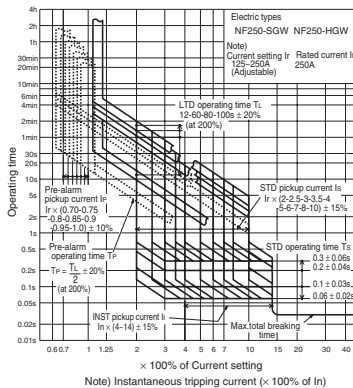
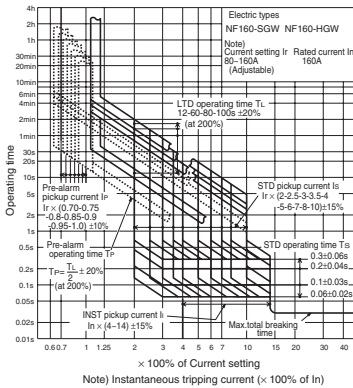
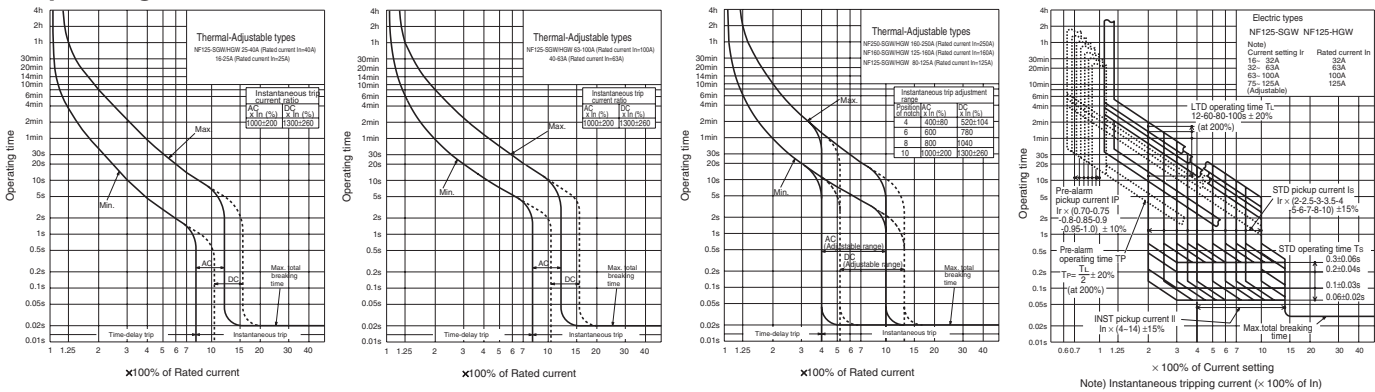
Type NF250-SGW

Type name			NF125-SGW RT			NF125-SGW RE			NF125-HGW RT			NF125-HGW RE			NF160-SGW RT			NF160-SGW RE		
Rated current In (Amp.)			16–25, 25–40, 40–63, 63–100, 80–125			16–32, 32–63, 63–100, 75–125			16–25, 25–40, 40–63, 63–100, 80–125			16–32, 32–63, 63–100, 75–125			125–160			80–160		
Number of poles			2	3	4	3	4		2	3	4	3	4		2	3	4	3	4	
Rated insulation voltage Ui (V)			690			690			690			690			690			690		
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	8/8		8/8		20/20		20/20		8/8		8/8						
			500V	30/30		30/30		50/50		50/50		30/30		30/30						
			440V	36/36		36/36		65/65		65/65		36/36		36/36						
			400V	36/36		36/36		75/75		75/75		36/36		36/36						
			230V	85/85		85/85		100/100		100/100		85/85		85/85						
		DC (#1)	300V	20/20	—		—		40/40		—		20/20		—					
			500V	—	20/20	—		—		40/40		—		—		20/20		—		
			600V	—		20/20		—		—		40/40		—		—		20/20		—
Standard Attached Parts (Front connection)			Mounting screw: M4×0.7×73 (4pcs) Insulation barrier: (2P: 2pcs, 3P: 4pcs, 4P: 6pcs)																	

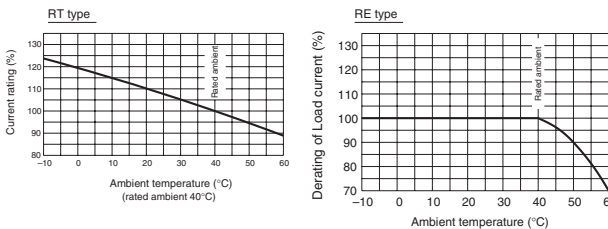
Type name			NF160-HGW RT			NF160-HGW RE			NF250-SGW RT			NF250-SGW RE			NF250-HGW RT			NF250-HGW RE		
Rated current In (Amp.)			125–160			80–160			125–160, 160–250			125–250			125–160 160–250			125–250		
Number of poles			2	3	4	3		4	2	3	4	3		4	2	3	4	3		4
Rated insulation voltage Ui (V)			690			690			690			690			690			690		
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	20/20		20/20		8/8		8/8		20/20		20/20						
			500V	50/50		50/50		30/30		30/30		50/50		50/50						
			440V	65/65		65/65		36/36		36/36		65/65		65/65						
			400V	75/75		75/75		36/36		36/36		75/75		75/75						
			230V	100/100		100/100		85/85		85/85		100/100		100/100						
	DC (#1)		300V	40/40	—		—		20/20		—		40/40		—					
			500V	—	40/40	—		—		20/20		—		—		40/40				
			600V	—		40/40		—		—		20/20		—		—		40/40		
	Standard Attached Parts (Front connection)			Mounting screw: M4×0.7×73 (4pcs) Insulation barrier: (2P: 2pcs, 3P: 4pcs, 4P: 6pcs)																

Note (#1) Use either 2-pole. When wired as shown at the bottom of page 13, 3-pole models can be used for up to 500 V DC, and 4-pole models for up to 600V DC.

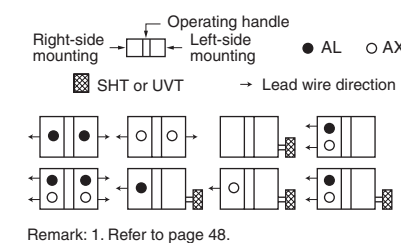
Operating Characteristics



Ambient Compensating Curve



Internal Accessories

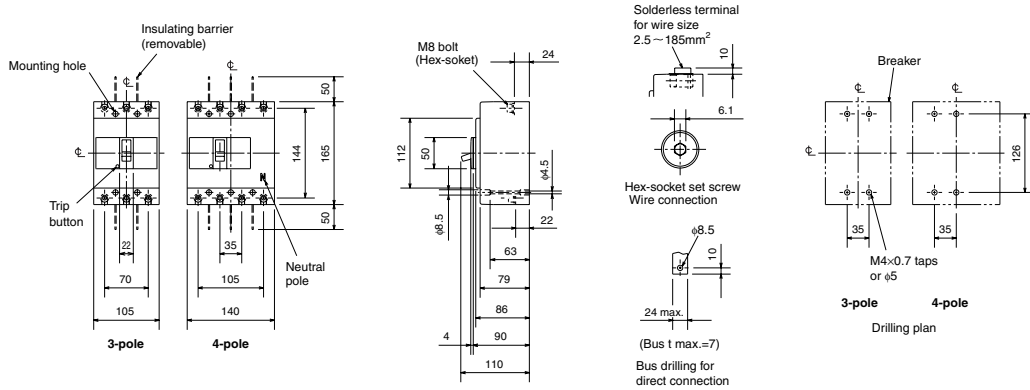


External Accessories

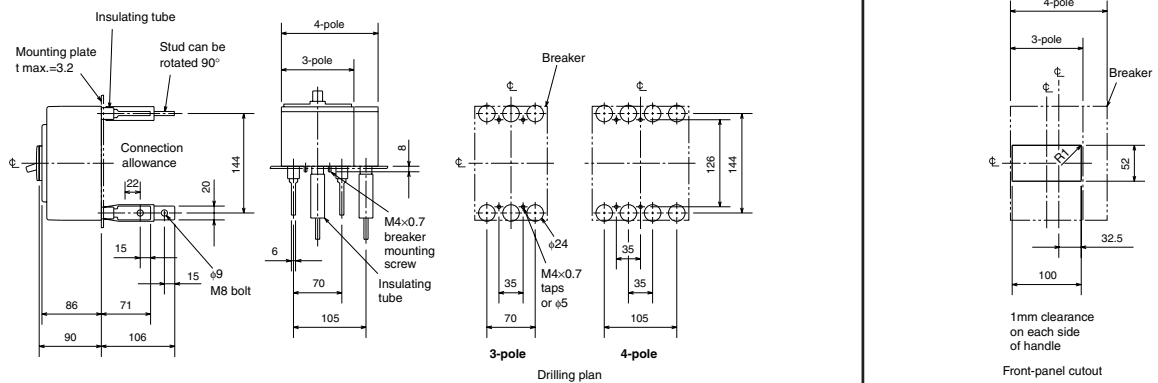
Accessories		Type name	Reference page	Accessories		Type name	Reference page			
Operating handle	F	F-2SG	61	Mechanical interlock	MI	MI-05SW3 (#1)	79			
	V	V-2SG	64							
	S	S2GSW	68							
Handle lock device	LC	LC-2GSW	80			Terminal cover	Small	TC-S	TCS-2GSW3W (#1)	70
	(#2)	HLF-2GSW								
	HL	HLN-2GSW								
	HL-S	HLS-2GSW								
OFF Lock with 3 Padlock	HLF3-2GSW	80	Large	TC-L	TCL-2GSW3W (#1)					
				Skeleton	TTC	TTC-2GSW3 (#1)				
				Rear	BTC	BTC-2GSW3W (#1)				
				Plug-in	PTC	PTC-2GSW3W (#1)				
				Electrical operation device		MDS-NF2GSWE (#3)	71			

Note (#1) The designation depends on the number of poles. Refer to the reference page.
(#2) HLF types are used for OFF-lock, and HLN types for ON-lock.
(#3) Specify the working voltage.

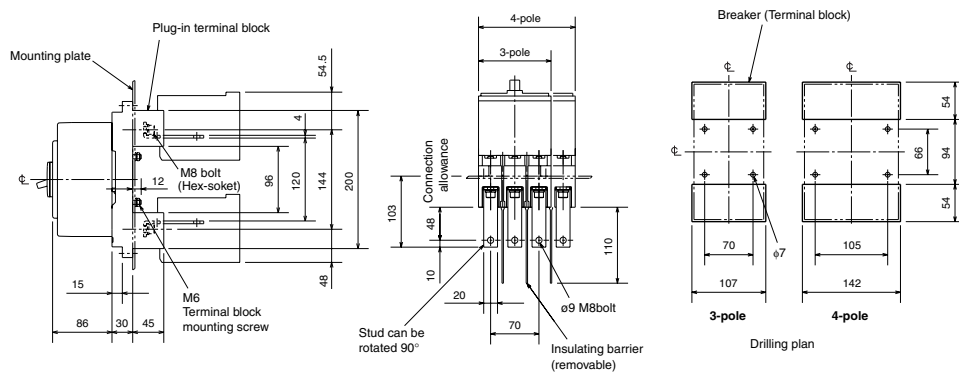
Front connection



Rear connection



Plug-in



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

6. Characteristics and Dimensions

Molded-Case Circuit Breakers

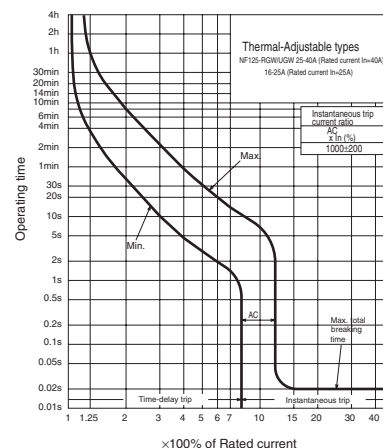
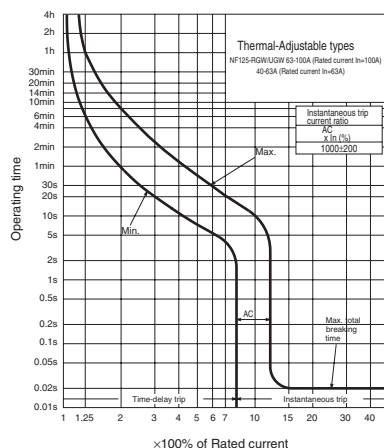
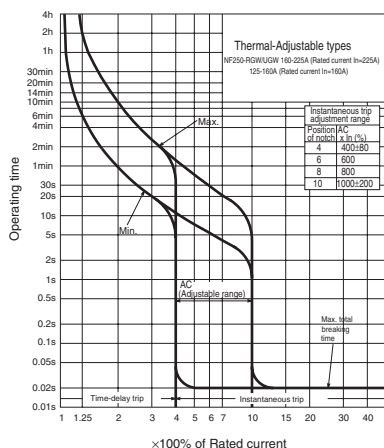
NF250-RGW NF250-UGW
NF125-RGW NF125-UGW



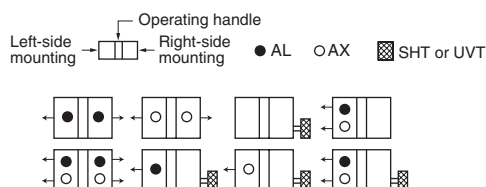
Type NF250-RGW

Type name				NF125-RGW RT		NF125-UGW RT			NF250-RGW RT			NF250-UGW RT		
Rated current In (Amp.)				16–25 25–40 40–63 63–100		16–25 25–40 40–63 63–100			125–160 160–225			125–160 160–225		
Number of poles				2 3		2 3 4			2 3			2 3 4		
Rated insulation voltage Ui (V)				690		690			690			690		
Rated short-circuit braking capacity (kA)	IEC 60947-2 (Icu/Ics)			AC	690V	25/25		30/30		25/25		30/30		
					500V	125/125		200/200		125/125		200/200		
					440V	125/125		200/200		125/125		200/200		
					400V	125/125		200/200		125/125		200/200		
					230V	125/125		200/200		125/125		200/200		
	DC	300V	–		–		–		–					
		500V	–		–		–		–					
		600V	–		–		–		–					
Standard Attached Parts (Front connection)					Mounting screw: M4×0.7×73 (4pcs) Insulation barrier: (2P: 2pcs, 3P: 4pcs, 4P: 6pcs)									

Operating Characteristics

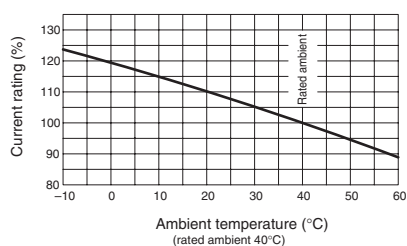


Internal Accessories



Remark: 1. Refer to page 48.

Ambient Compensating Curve

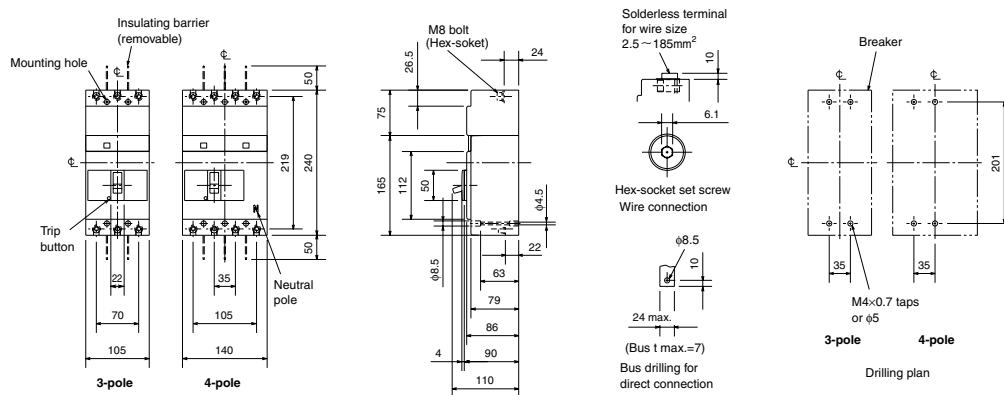


External Accessories

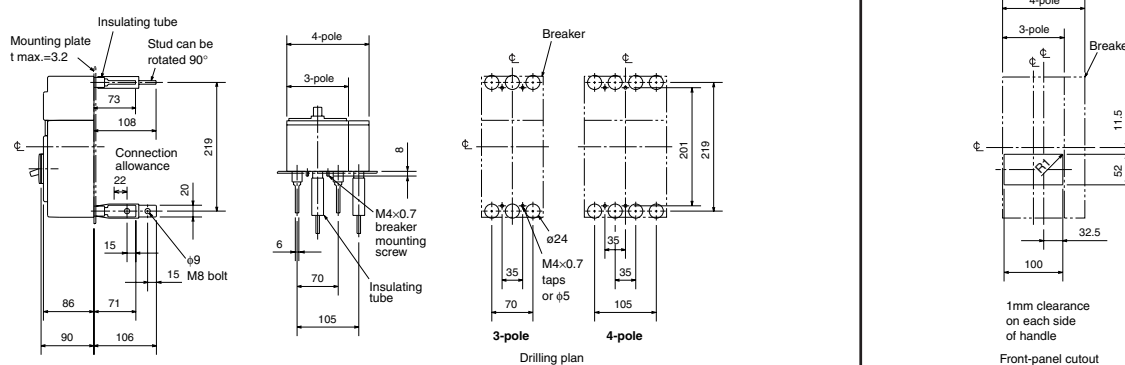
Accessories		Type name	Reference page	Accessories			Type name	Reference page
Operating handle	F	F-2UG	61	Terminal cover	Small	TC-S	TCS-2GSW3W (*1)	70
	V	V-2UG	64		Large	TC-L	TCL-2GSW3W (*1)	
	S	—	—		Skeleton	TTC	TTC-2GSW3 (*1)	
Mechanical interlock	MI	MI-05SW3 (*1)	79		Rear	BTC	BTC-2GSW3W (*1)	
Electrical operation device	—		—		Plug-in	PTC	PTC-2GSW3W (*1)	
				Handle lock device	LC	LC-2GSW	80	
					(*2) HL	HLF-2GSW		
						HLN-2GSW		
					HL-S	HLS-2GSW		

Note (*1) The designation depends on the number of poles. Refer to the reference page.
(*2) HLF and HLS types are used for OFF-lock, and HLN types for ON-lock.

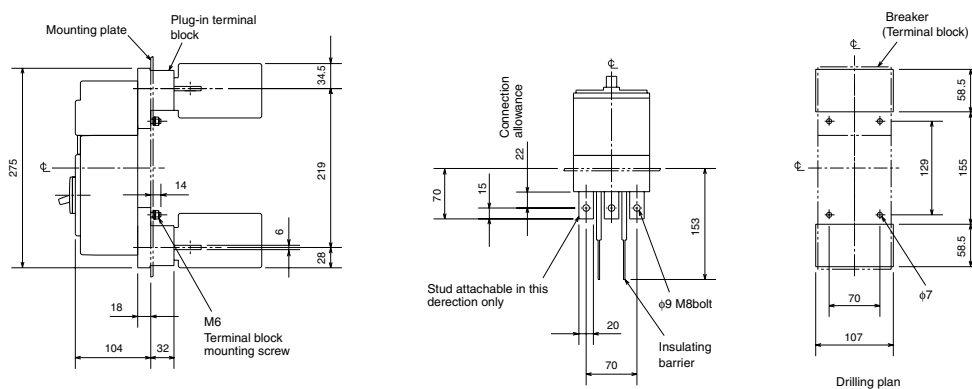
Front connection



Rear connection



Plug-in



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

6. Characteristics and Dimensions

Molded-Case Circuit Breakers

NF400-CW NF400-SW

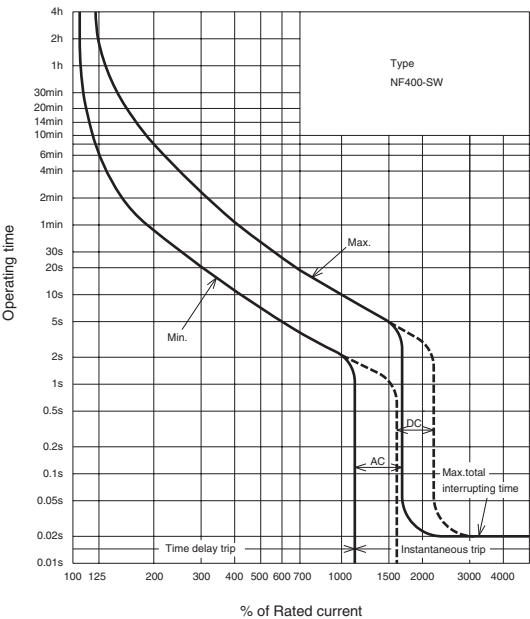
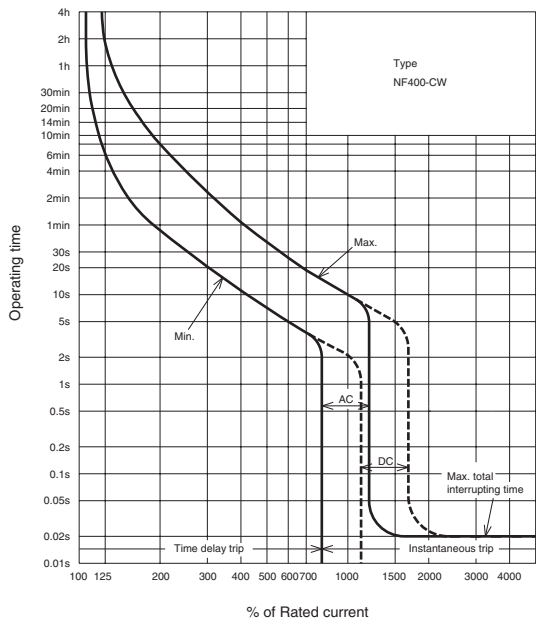


Type NF400-SW

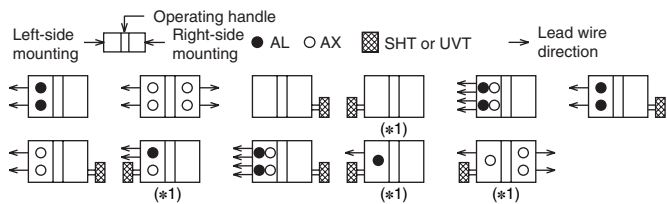
Type name			NF400-CW		NF400-SW		
Rated current In (Amp.)			250 300		350 400		
Number of poles			2	3	2	3	4
Rated insulation voltage Ui (V)			690		690		
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	—		10/10	
			500V	15/8		30/30	
			440V	25/13		42/42	
			400V	36/18		45/45	
			230V	50/25		85/85	
	DC(*1)	250V	20/10		40/40		
Standard Attached Parts		Front connection	Mounting screw: M6×60 (4pcs) Insulating barrier: (2P: 2pcs, 3P: 4pcs, 4P: 6pcs)				
		Rear connection	Mounting screw: M6×72 (4pcs)				

Note (*1) When wired as shown at the bottom of page 17, 3-pole models can be used for up to 400VDC, and 4-pole models for up to 500VDC.

Operating Characteristics

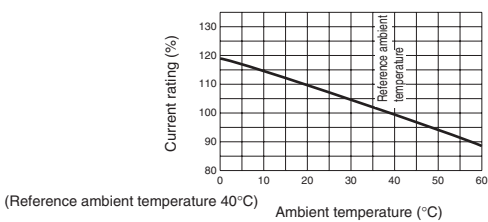


Internal Accessories



Note (*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting.
Remark: 1. Refer to page 49.

Ambient Compensating Curve



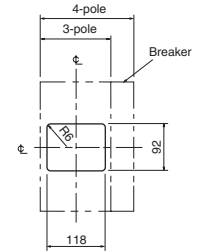
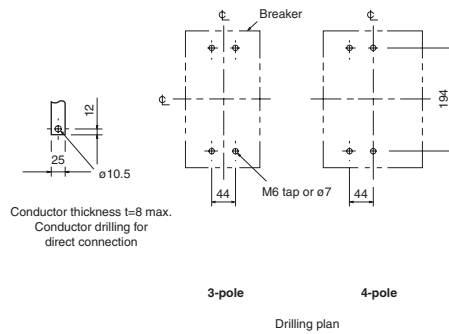
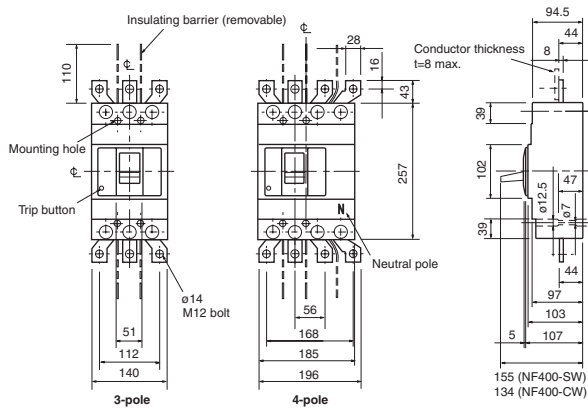
External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories		Type name	Reference page	Accessories		Type name	Reference page
Operating handle	F	F-4S	62	Terminal cover	Large (TC-L)	TCL-4SW3 (*1)	70
	V	V-4S	65		Skeleton (TTC)	TTC-4SW3 (*1)	
	S	S4CW, S4SW	68		Rear (BTC)	BTC-4SW3 (*1)	
Mechanical interlock (MI)		MI-4SW3 (*1)	79	Handle lock device	HL	HL-4CW, HL-4SW	80
Auxiliary handle (HT)		HT-4CW, HT4SW	80		HL-S	HLS-4SW	
				Electrical operation device		☆	71

Note (*1) The designation depends on the number of poles. Refer to the reference page.

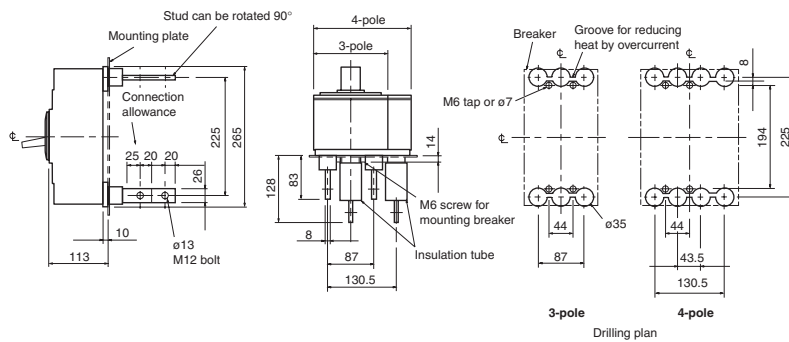
Front connection



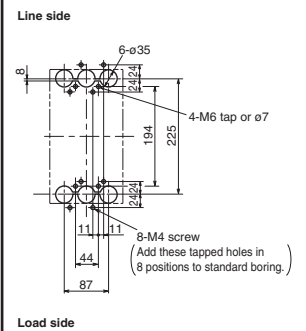
1.0mm clearance on each side of the handle frame.

Front-panel cutout

Rear connection



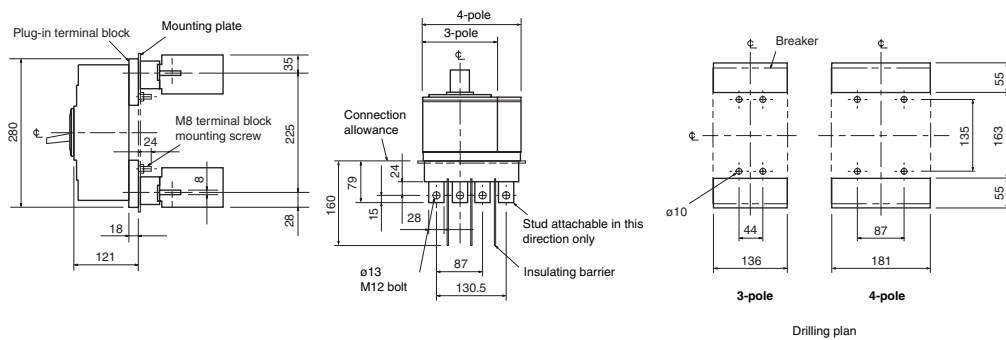
Boring dimensions for rear connection type barriers (3-pole)



Load side

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

Plug-in



Drilling plan

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

6. Characteristics and Dimensions

Molded-Case Circuit Breakers

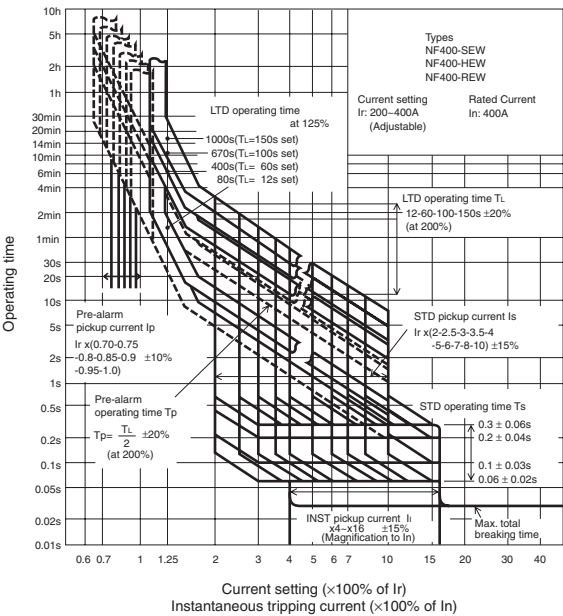
NF400-SEW
NF400-HEW
NF400-REW



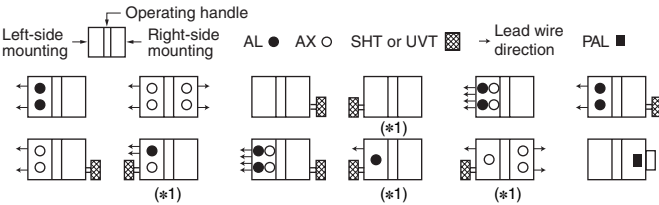
Type NF400-SEW

Type name				NF400-SEW		NF400-HEW		NF400-REW			
Rated current In (Amp.)				200-400 adjustable							
Number of poles				3 4		3 4		3			
Reted insulation voltage Ui (V)				690		690		690			
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)		AC	690V		10/10		35/18		—	
				500V		30/30		50/50		70/35	
				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: M6×72 (4pcs) Insulating barrier: (3P: 4pcs, 4P: 6pcs)							
			Rear connection	Mounting screw: M6×85 (4pcs)							

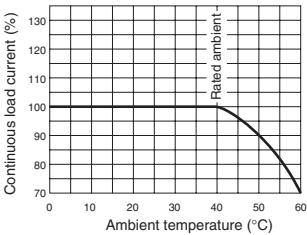
Operating Characteristics



Internal Accessories



Temperature Characteristics



Note (*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting.
Remark: 1. Refer to page 49.

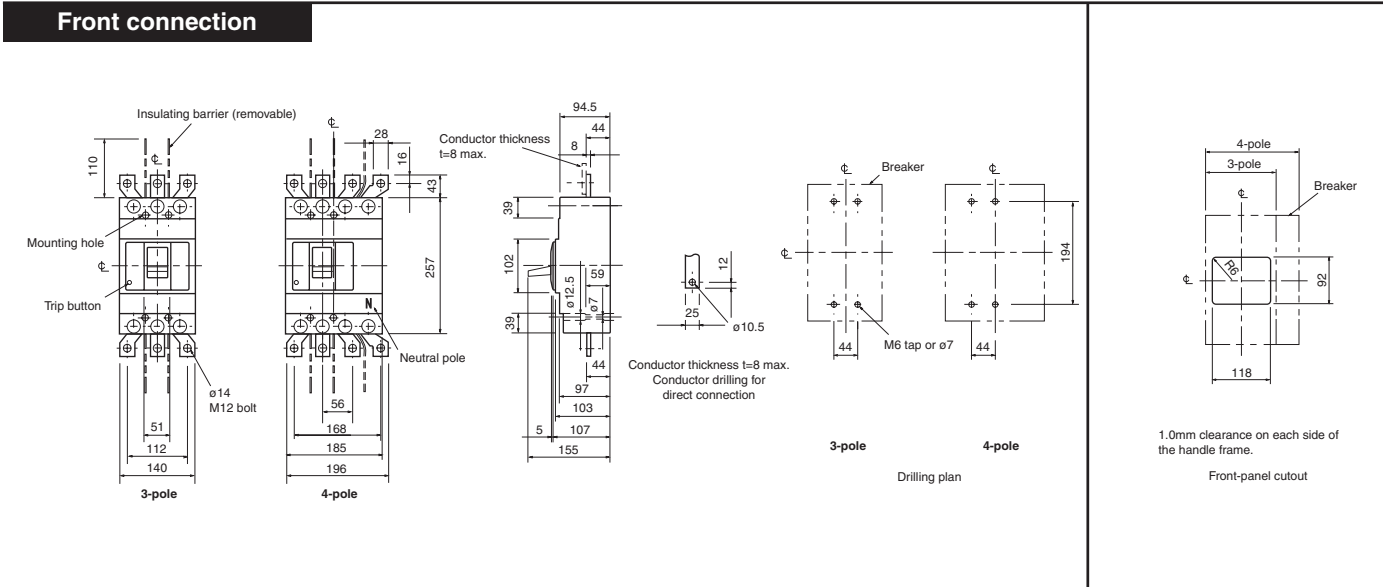
External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

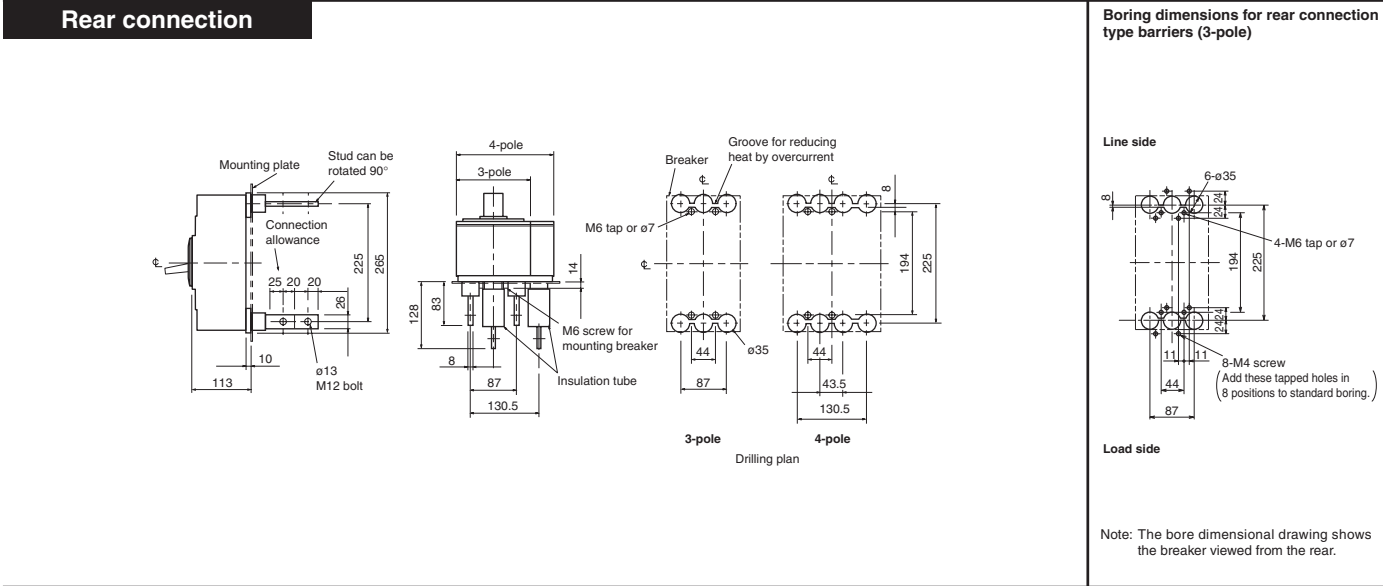
Accessories		Type name	Reference page	Accessories		Type name	Reference page
Operating handle	F	F-4S	62	Terminal cover	Large (TC-L)	TCL-4SW3 (*1)(*2)	70
	V	V-4S	65		Skeleton (TTC)	TTC-4SW3 (*2)	
	S	S4SW	68		Rear (BTC)	BTC-4SW3 (*1)(*2)	
Mechanical interlock (MI)		MI-4SW3 (*2)	79	Handle lock device	HL	HL-4SW	80
Auxiliary handle (HT)		HT-4SW	80		HL-S	HLS-4SW	
				Electrical operation device		☆	71

Note (*1) This is for NF400-SEW.
(*2) The designation depends on the number of poles. Refer to the reference page.

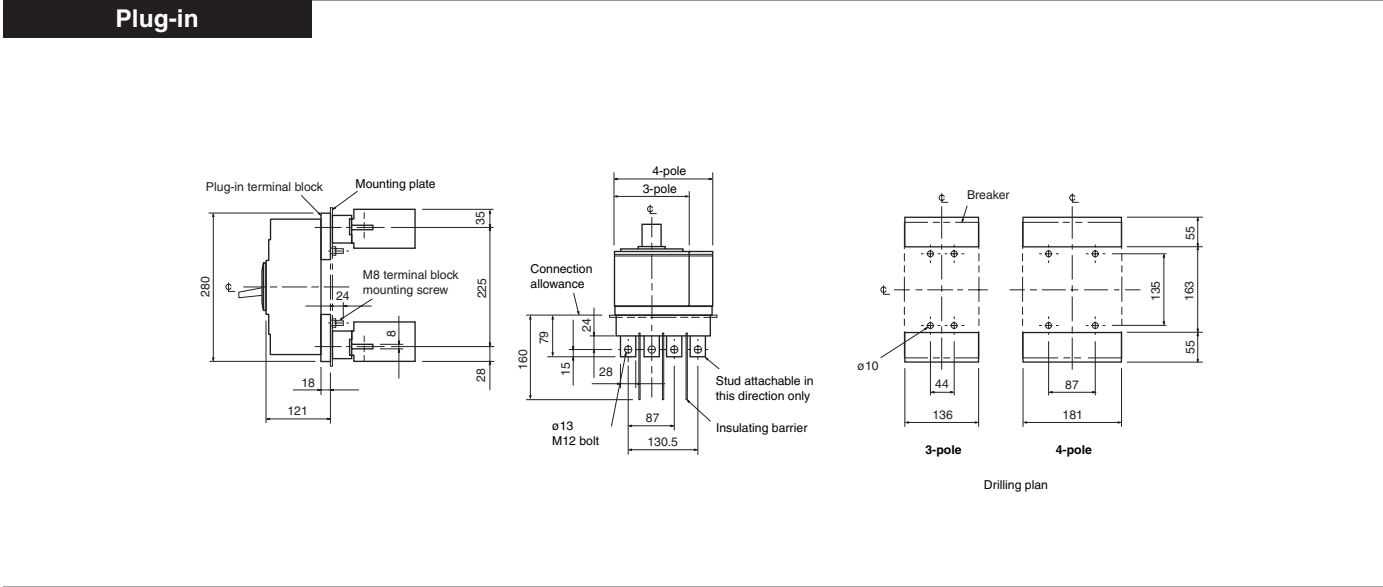
Front connection



Rear connection



Plug-in



6. Characteristics and Dimensions

Molded-Case Circuit Breakers

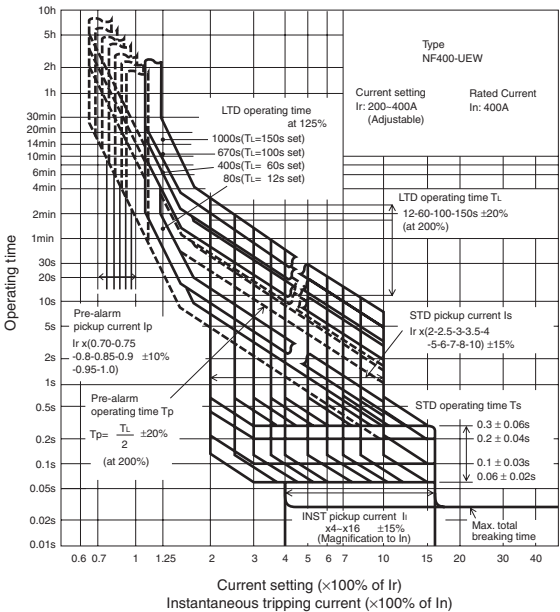
NF400-UEW



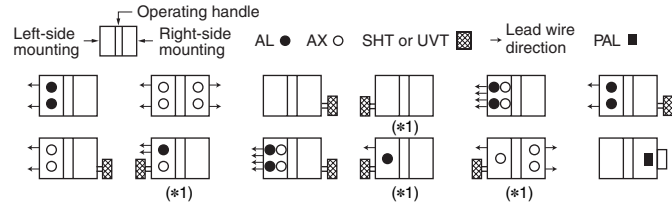
Type NF400-UEW

Type name				NF400-UEW	
Rated current In (Amp.)				200-400 adjustable	
Number of poles				3	4
Rated insulation voltage Ui (V)				690	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	—	
			500V	170/170	
			440V	200/200	
			400V	200/200	
			230V	200/200	
Standard Attached Parts (4-pole models are provided with auxiliary handle.)			Front connection	Mounting screw: M6×65 (2pcs), M6×174 (2pcs) Insulating barrier: (3P: 4pcs)	
			Rear connection	Mounting screw: M6×72 (2pcs), M6×181 (2pcs)	

Operating Characteristics

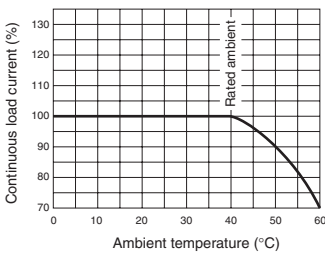


Internal Accessories



Note (*) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting.
Remark: 1. Specification of 4-pole model is same as that of NF800-UEW.
2. Refer to page 107.

Current reducing curve



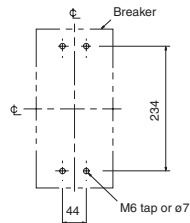
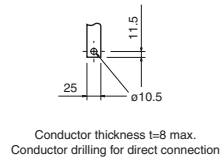
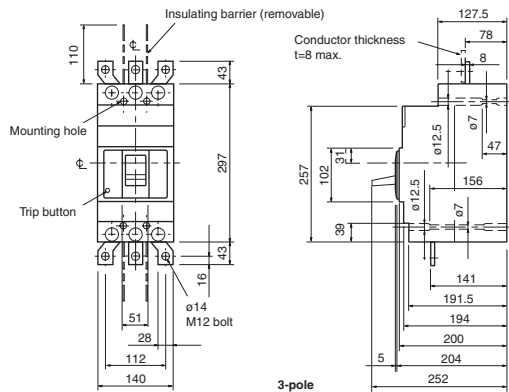
External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

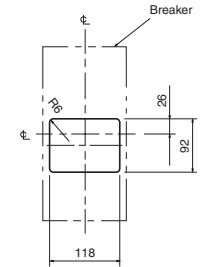
Accessories		Type name	Reference page	Accessories		Type name	Reference page
Operating handle	F	F-4U (*1)	62	Terminal cover	Large (TC-L)	TCL-4SW3 (*1)	70
	S	S4SW	68		Skeleton (TTC)	—	—
Mechanical interlock (MI)	(MI)	MI-4SW3 (*1)	79		Rear (BTC)	BTC-4SW3 (*1)	70
Auxiliary handle	(HT)	HT-4SW	80	Handle lock device	HL	HL-4SW	80
					HL-S	HLS-4UW	
				Electrical operation device		☆	71

Note (*) The designation depends on the number of poles. Refer to the reference page.

Front connection

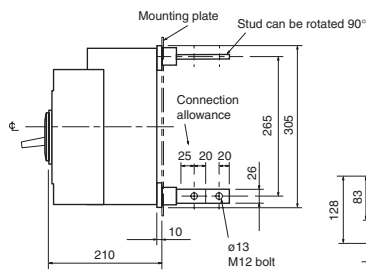


3-pole
Drilling plan

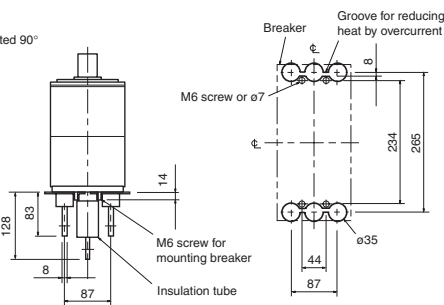


1.0mm clearance on each side
of the handle frame.
Front-panel cutout

Rear connection

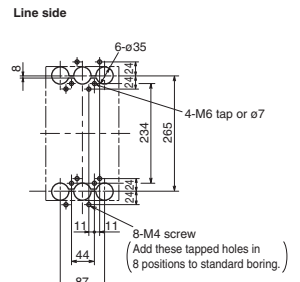


3-pole



Drilling plan

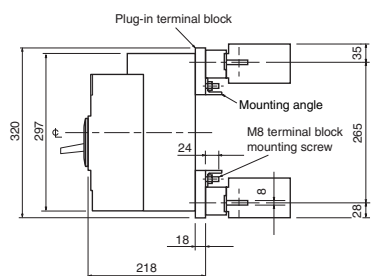
Boring dimensions for rear connection type barriers (3-pole)



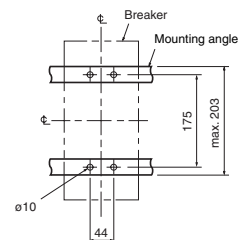
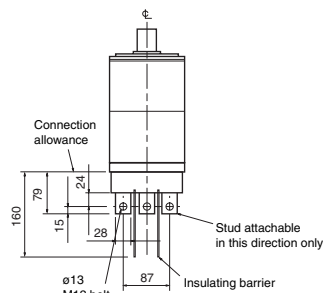
Load side

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

Plug-in



3-pole



3-pole
Drilling plan

Remark: 1. Overall dimension of 4-pole model is same as that of 4-pole model of NF800-UEW. Refer to page 98.

6. Characteristics and Dimensions

Molded-Case Circuit Breakers

NF630-CW NF630-SW

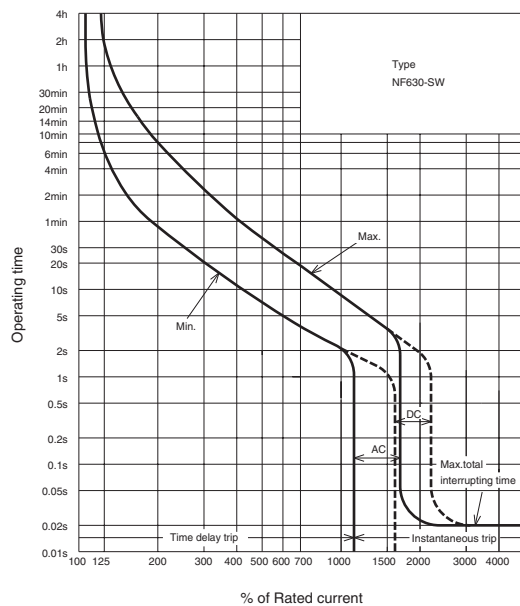
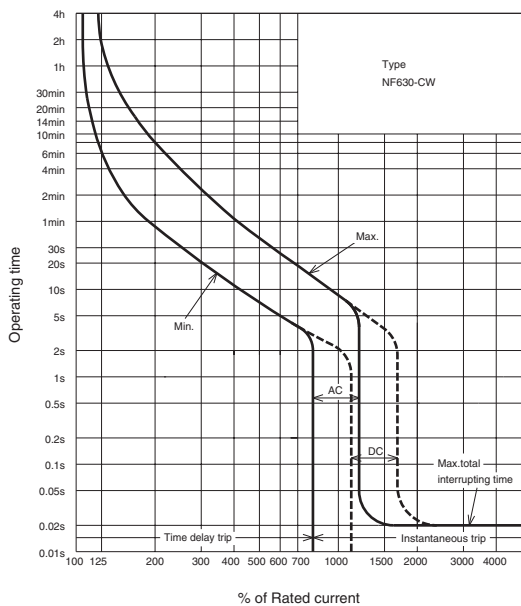


Type NF630-SW

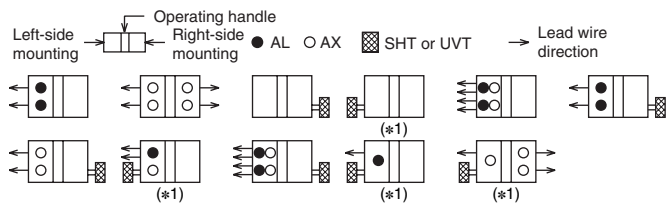
Type name				NF630-CW			NF630-SW						
Rated current In (Amp.)				500 600 630									
Number of poles				2		3		2		3		4	
Reted insulation voltage Ui (V)				690			690						
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	—			10/10						
			500V	18/9			30/30						
			440V	36/18			42/42						
			400V	36/18			50/50						
			230V	50/25			85/85						
		DC (#1)	250V	20/10			40/40						
Standard Attached Parts (4-pole models are provided with auxiliary handle.)			Front connection	Mounting screw: M6×72 (4pcs) Insulating barrier: (2P: 2pcs, 3P: 4pcs, 4P: 6pcs)									
			Rear connection	Mounting screw: M6×85 (4pcs)									

Note (*1) When wired as shown at the bottom of page 17, 3-pole models can be used for up to 400VDC, and 4-pole models for up to 500VDC.

Operating Characteristics

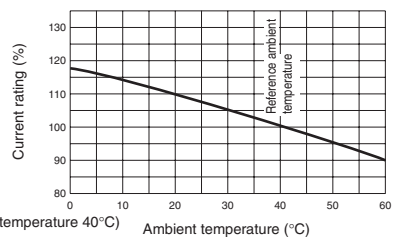


Internal Accessories



Note (*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting.
Remark: 1. Refer to page 49.

Ambient Compensating Curve



(Reference ambient temperature 40°C)

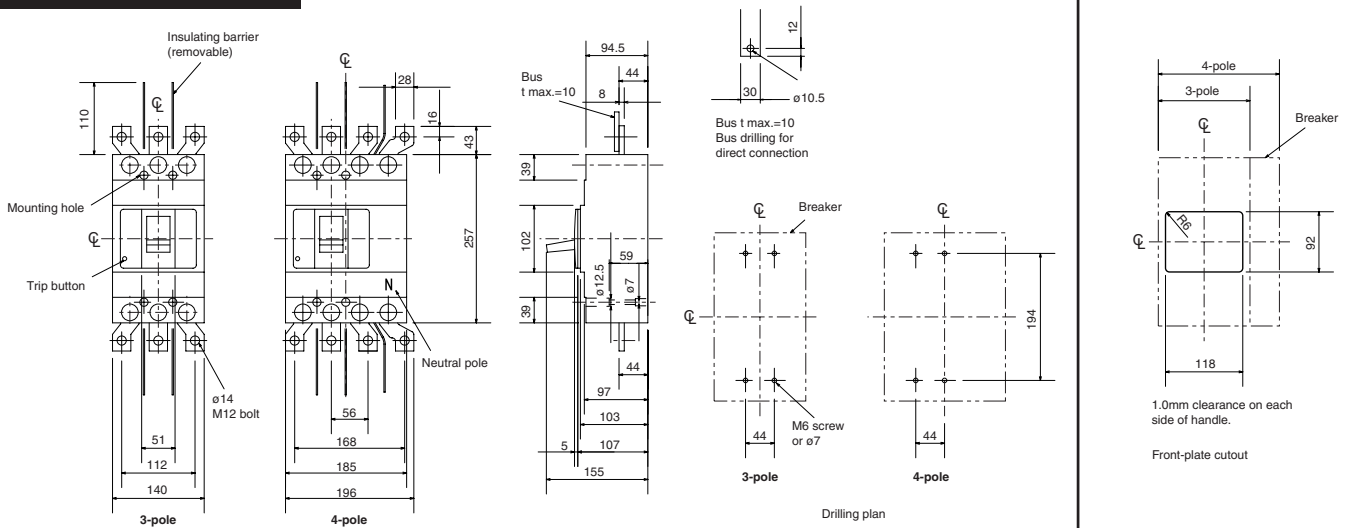
External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

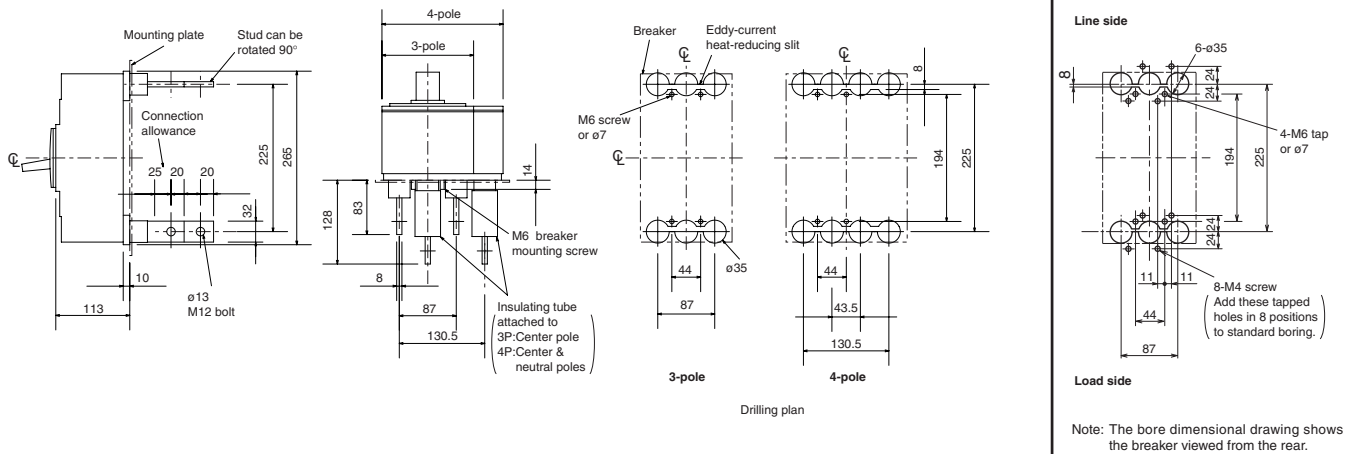
Accessories			Accessories		
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Terminal cover	Large (TC-L)	70
	V V-4S	65		Skeleton (TTC)	
	S S4SW	68		Rear (BTC)	
Mechanical interlock (MI)	MI-4SW3 (*1)	79	Handle lock device	HL	80
Auxiliary handle (HT)	HT-4SW	80		HL-S	
			Electrical operation device	☆	71

Note (*1) The designation depends on the number of poles. Refer to the reference page.

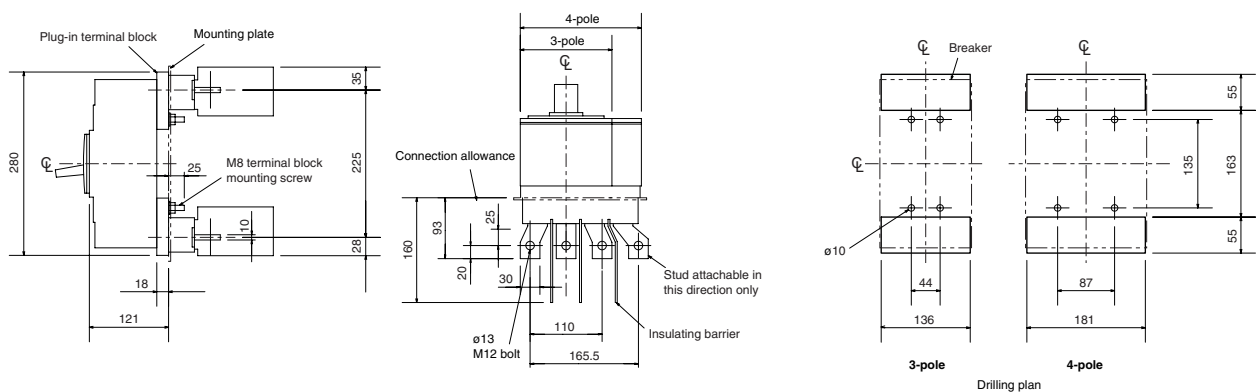
Front connection



Rear connection



Plug-in



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

6. Characteristics and Dimensions

Molded-Case Circuit Breakers

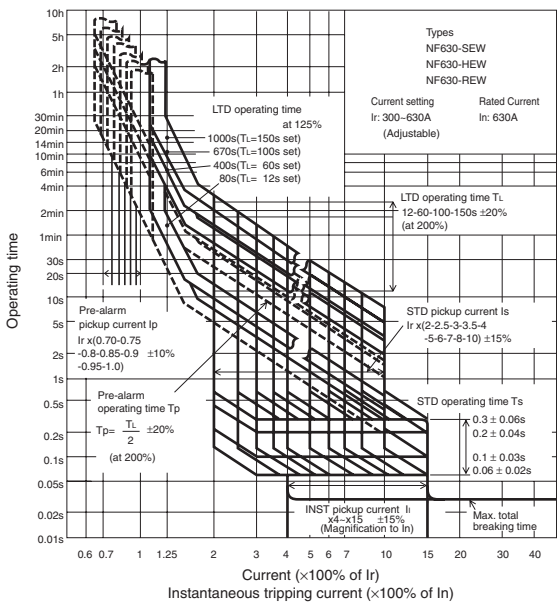
NF630-SEW
NF630-HEW
NF630-REW



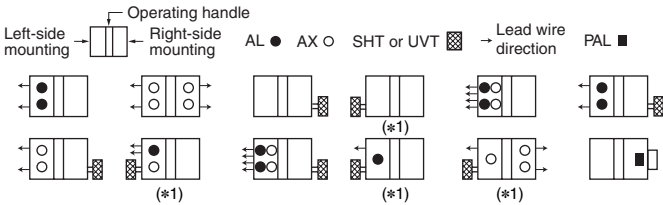
Type NF630-SEW

Type name			NF630-SEW		NF630-HEW		NF630-REW	
Rated current In (Amp.)			300-630 adjustable					
Number of poles			3	4	3	4	3	
Reted insulation voltage Ui (V)			690		690		690	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	10/10	35/18		—	
			500V	30/30	50/50		70/35	
			440V	42/42	65/65		125/63	
			400V	50/50	70/70		125/63	
			230V	85/85	100/100		150/75	
Standard Attached Parts (4-pole models are provided with auxiliary handle.)		Front connection	Mounting screw: M6×72 (4pcs) Insulating barrier: (3P: 4pcs, 4P: 6pcs)					
		Rear connection	Mounting screw: M6×85 (4pcs)					

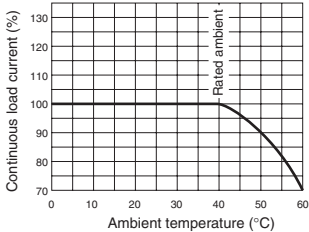
Operating Characteristics



Internal Accessories



Temperature Characteristics



Note (*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting.
Remark: 1. Refer to page 49.

External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Large terminal cover	(TC-L) TCL-4SW3 (*2)	70
	V V-4S	65	Skeleton	(TTC) TTC-4SW3 (*2)	
	S S4SW	68	Rear terminal cover	(BTC) BTC-4SW3 (*2)	
Mechanical interlock (MI)	MI-4SW3 (*1)	79	Handle lock device	HL HL-4SW	80
Auxiliary handle (HT)	HT-4SW	80	Handle lock device	HLS-HLS-4SW	
Electrical operation device				☆	71

Note (*1) This is for NF630-SEW
(*2) The designation depends on the number of poles. Refer to the reference page.

The image contains two technical drawings of circuit breakers, labeled '3-pole' and '4-pole'.

3-pole drawing:

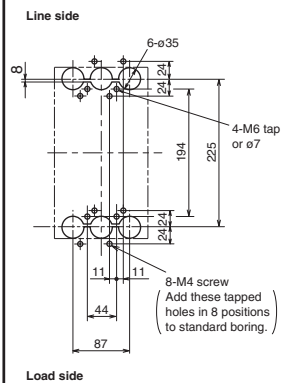
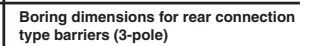
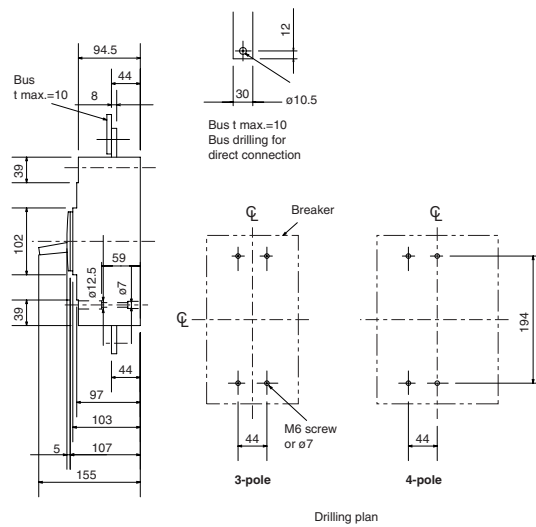
- Overall height: 110
- Mounting hole diameter: $\varnothing$
- Trip button diameter: $\varnothing$
- Width: 140
- Internal width: 112
- Bottom width: 51
- Label: **3-pole**

4-pole drawing:

- Overall height: 257
- Mounting hole diameter: $\varnothing$
- Trip button diameter: $\varnothing$
- Width: 196
- Internal width: 185
- Bottom width: 168
- Bottom width (inner): 56
- Top width: 28
- Top width (inner): 16
- Bottom width (inner): 43
- Label: **4-pole**

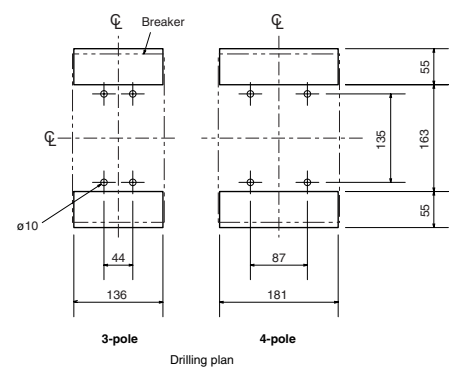
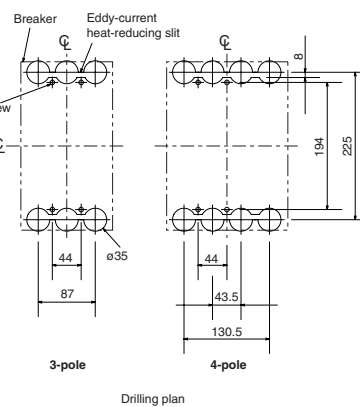
Common labels:

- Insulating barrier (removable)
- Neutral pole (pointing to the bottom pole in the 4-pole drawing)
- $\varnothing$ (diameter symbol)
- M12 bolt



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

Technical drawings of the M6 breaker mounting screw. The left drawing is a side view showing the mounting plate, stud, connection allowance, and dimensions: 113, 10, 25, 20, 20, 32, 225, 265, and an M12 bolt with a diameter of 13. The right drawing is a top view showing the 4-pole and 3-pole configurations, dimensions: 128, 83, 8, 87, 130.5, 14, and labels for 'M6 breaker mounting screw' and 'Insulating tube attached to 3P-Center pole 4P-Center & neutral poles'.



6. Characteristics and Dimensions

Molded-Case Circuit Breakers

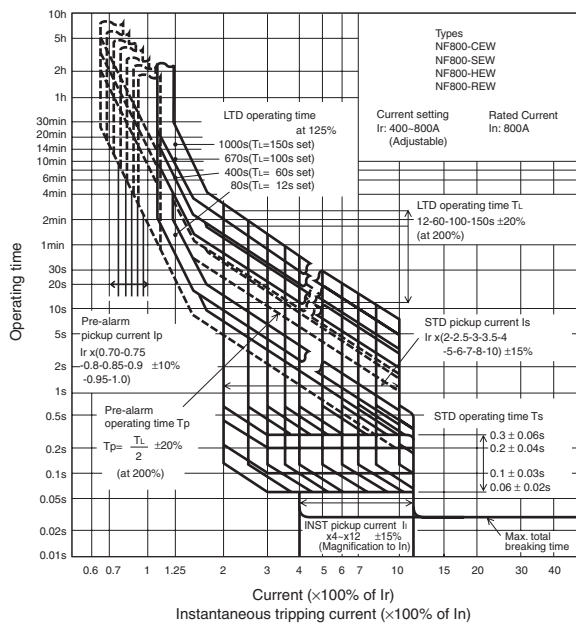
NF800-CEW
NF800-SEW
NF800-HEW
NF800-REW



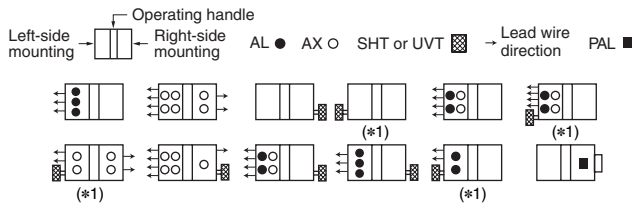
Type NF800-SEW

Type name				NF800-CEW		NF800-SEW		NF800-HEW		NF800-REW	
Rated current In (Amp.)				400-800 adjustable							
Number of poles				3		3	4	3	4	3	
Rated insulation voltage Ui (V)				690		690		690		690	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	—		10/10		15/15		—	
			500V	18/9		30/30		50/50		70/35	
			440V	36/18		42/42		65/65		125/63	
			400V	36/18		50/50		70/70		125/63	
			230V	50/25		85/85		100/100		150/75	
Standard Attached Parts (4-pole models are provided with auxiliary handle.)			Front connection	Mounting screw: M6×35 (4pcs) Insulating barrier: (3P: 2pcs, 4P: 3pcs)							
			Rear connection	Mounting screw: M6×40 (4pcs)							

Operating Characteristics



Internal Accessories



Note (*) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting.
Remark: 1. Refer to page 49.

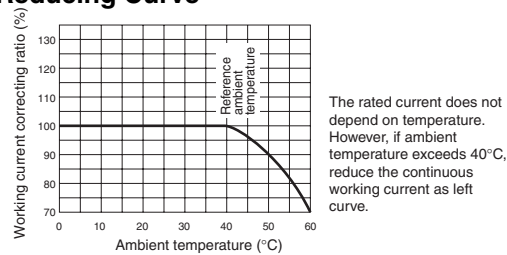
External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

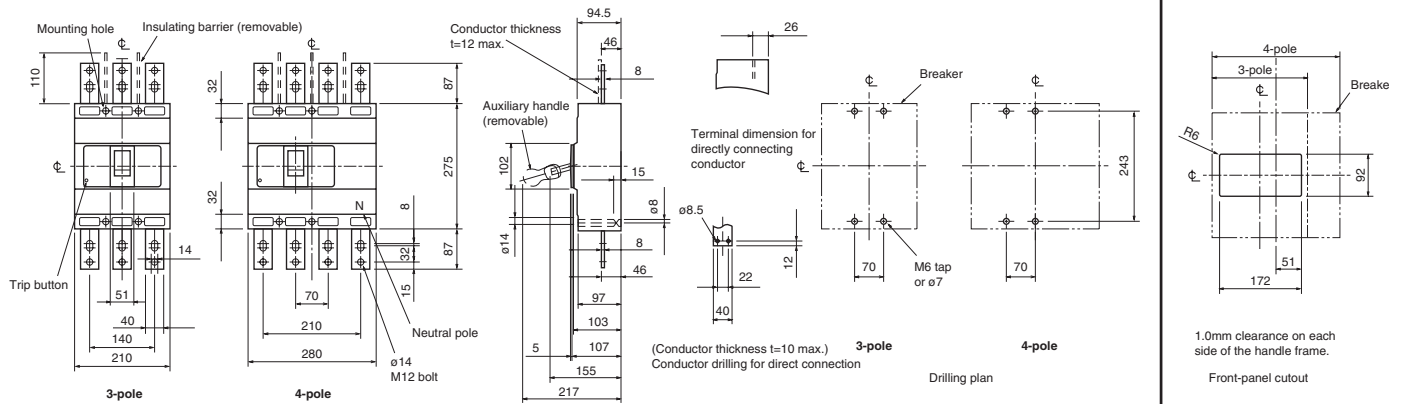
Accessories		Type name	Reference page	Accessories		Type name	Reference page
Operating handle	F	F-8S	62	Terminal cover	Large (TC-L)	TCL-8SW3 (*)	70
	V	V-8S	65		Skeleton (TTC)	TTC-8SW3 (*)	
	S	S4SW	68		Rear (BTC)	BTC-8SW3 (*)	
Mechanical interlock (MI)	MI	MI-8SW3 (*)	79	Handle lock device	HL	HL-4SW	80
Auxiliary handle (HT)	HT	HT-4SW	80		HL-S	HLS-8SW	
				Electrical operation device	☆		71

Note (*) The designation depends on the number of poles. Refer to the reference page.

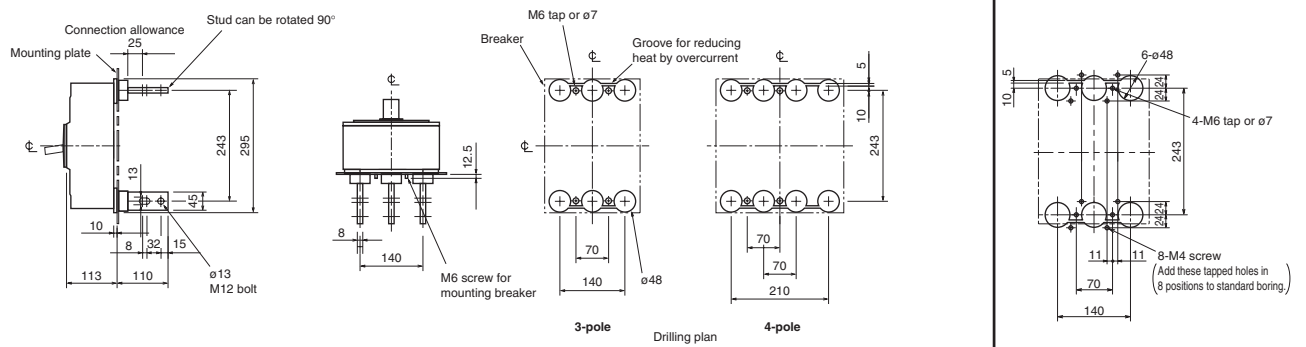
Current Reducing Curve



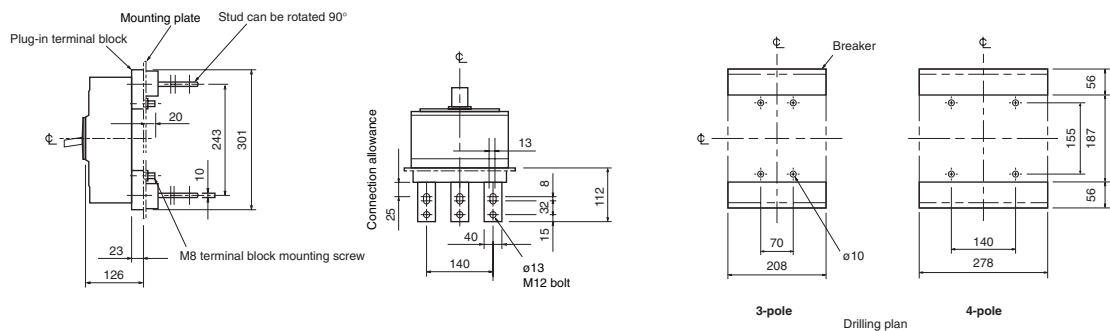
Front connection



Rear connection



Plug-in



6. Characteristics and Dimensions

Molded-Case Circuit Breakers

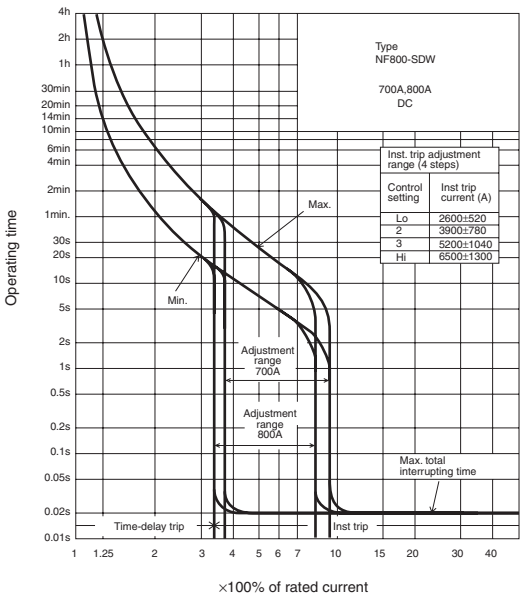
NF800-SDW



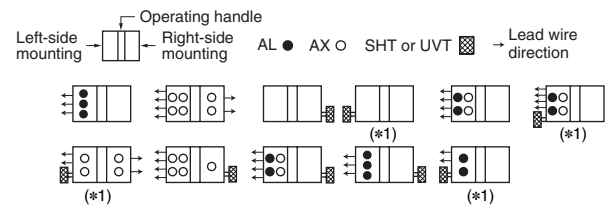
Type NF800-SDW

Type name		NF800-SDW	
Rated current In (Amp.)		(700), 800	
Number of poles		2	
Rated insulation voltage Ui (V)		690	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics) Time constant not larger than 10ms	DC	250V
		40/40	
Standard Attached Parts (4-pole models are provided with auxiliary handle.)		Front connection	Mounting screw: M6×35 (4pcs) Insulating barrier: (2P: 1pc, 3P: 2pcs, 4P: 3pcs)
		Rear connection	Mounting screw: M6×40 (4pcs)

Operating Characteristics

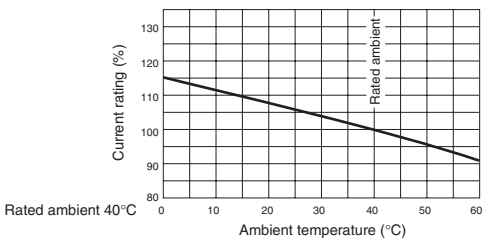


Internal Accessories



Note (*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting.
Remark: 1. Refer to page 49.

Ambient Compensating Curve



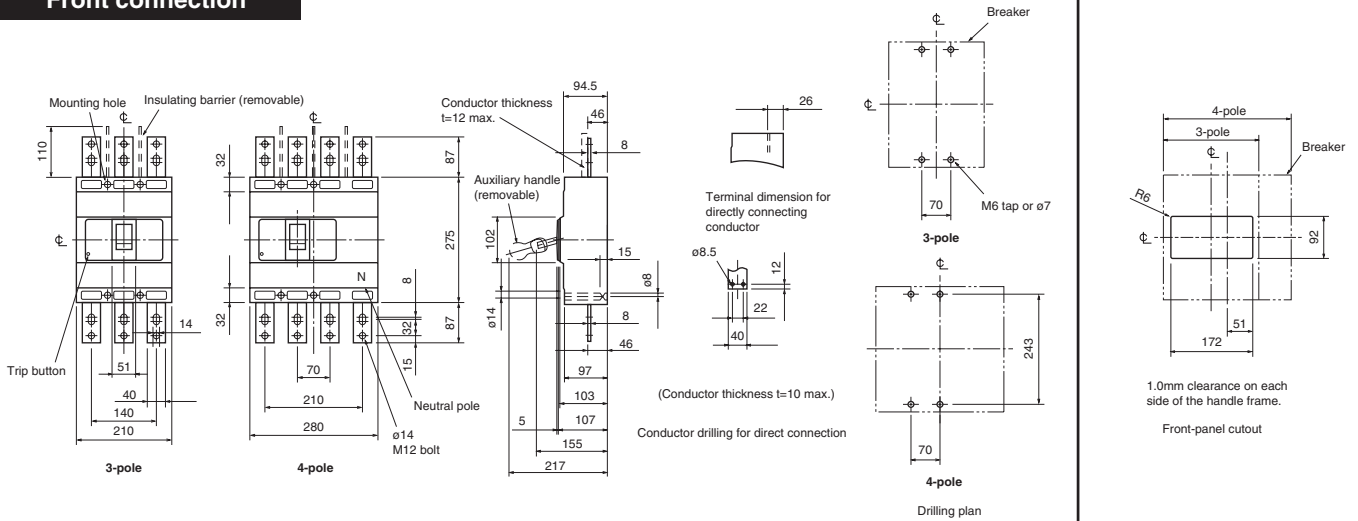
External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

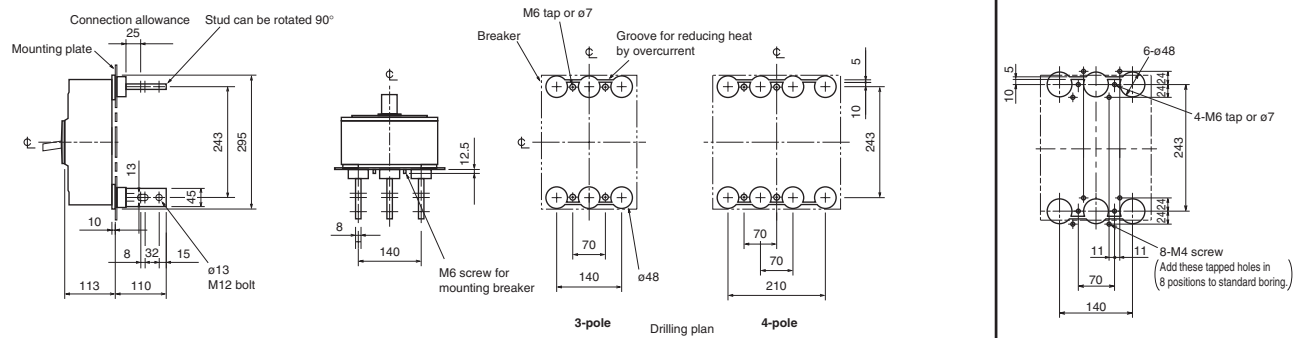
Accessories		Type name	Reference page	Accessories		Type name	Reference page
Operating handle	F	F-8S	62	Terminal cover	Large (TC-L)	TCL-8SW3 (*1)	70
	V	V-8S	65		Skeleton (TTC)	TTC-8SW3 (*1)	
	S	S4SW	68		Rear (BTC)	BTC-8SW3 (*1)	
Mechanical interlock (MI)		MI-8SW3 (*1)	79	Handle lock device	HL	HL-4SW	80
Auxiliary handle (HT)		HT-4SW	80		HL-S	HLS-8SW	
				Electrical operation device		☆	71

Note (*1) The designation depends on the number of poles. Refer to the reference page.

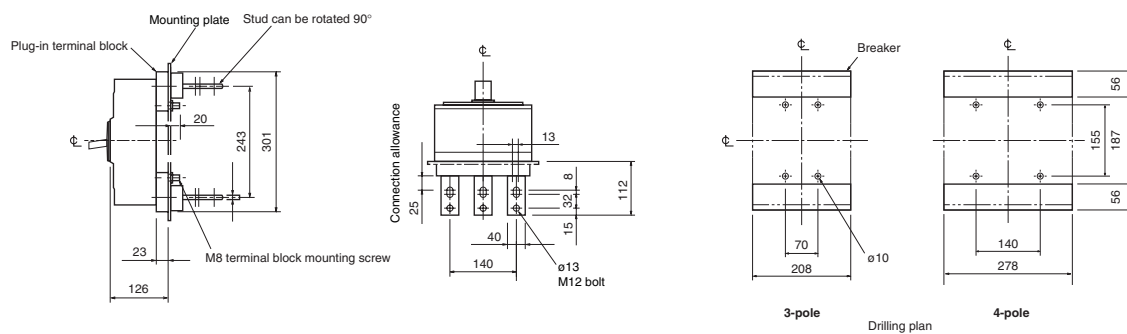
Front connection



Rear connection



Plug-in



Remark: 1. Standard specification of NF800-SDW is 2-pole model. 3-pole and 4-pole models are available for DC special voltage.
2. 2-pole models are 3-pole models with the central pole removed.

6. Characteristics and Dimensions

Molded-Case Circuit Breakers

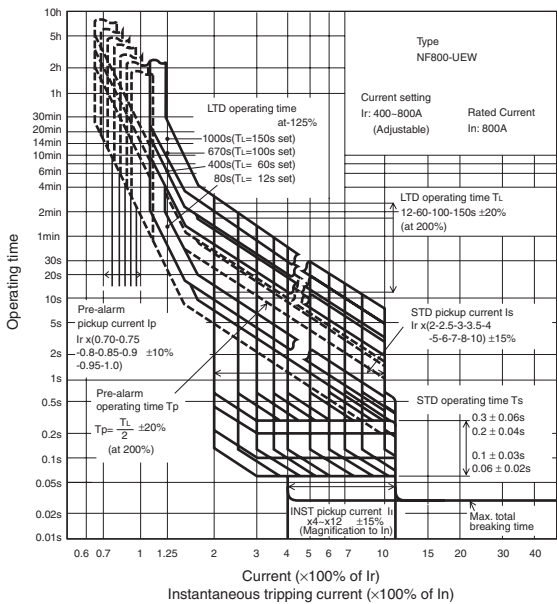
NF800-U EW



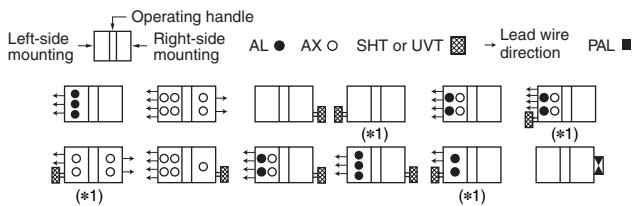
Type NF800-U EW

Type name				NF800-U EW	
Rated current In (Amp.)				400-800 adjustable	
Number of poles				3	4
Rated insulation voltage Ui (V)				690	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	35/35	
			500V	170/170	
			440V	200/200	
			400V	200/200	
			230V	200/200	
Standard Attached Parts (4-pole models are provided with auxiliary handle.)			Front connection	Mounting screw: 3P: M6×35, M6×132 (2pcs each) 4P: M6×35 (3pcs), M6×132 (2pcs) Insulating barrier: (3P: 2pcs, 4P: 3pcs)	
			Rear connection	Mounting screw: 3P: M6×40, M6×137 (2pcs each) 4P: M6×40 (3pcs), M6×137 (2pcs)	

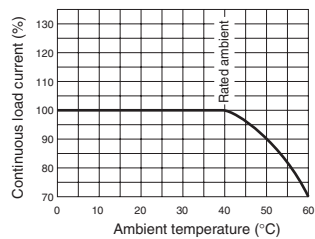
Operating Characteristics



Internal Accessories



Current reducing curve



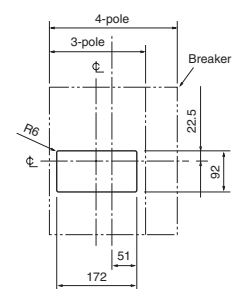
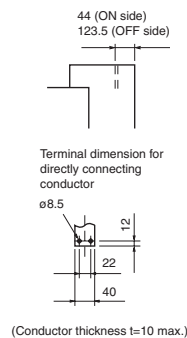
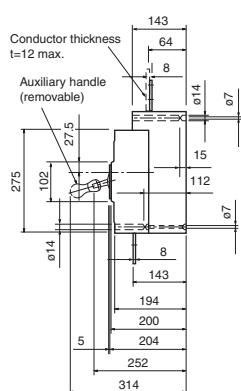
Note (*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting.
Remark: 1. Refer to page 49.

External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

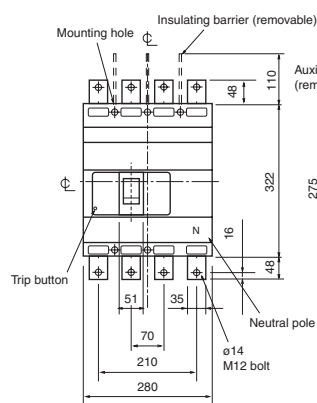
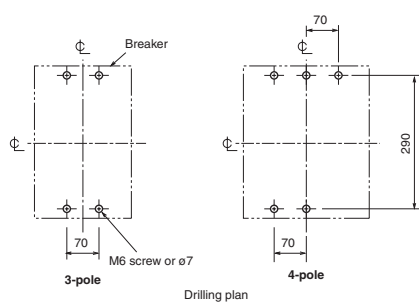
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-8U(*1)	62	Large (TC-L)	TCL-8UW3(*1)	70
	V —	—	Skeleton (TTC)	—	—
	S S4SW	68	Rear (BTC)	BTC-8SW3(*1)	70
Mechanical interlock (MI)	MI-8SW3(*1)	79	Handle lock device	HL HL-4SW	80
Auxiliary handle (HT)	HT-4SW	80	Handle lock device	HL-S HLS-8UW	
Electrical operation device				☆	71

Note (*1) The designation depends on the number of poles. Refer to the reference page.

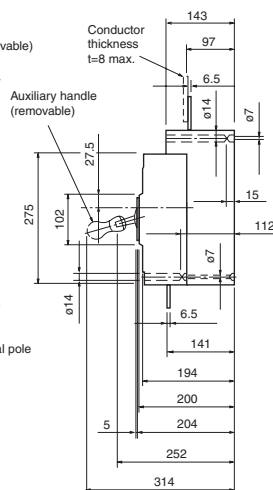
[illegible]

1.0mm clearance on each side of the handle frame.

Front-panel cutout



NF400-UEW 4-pole



Standard direction of stud is horizontal on power side, and vertical on load side. Otherwise, specify the direction.

Mounting plate

Connection allowance

25

13

45

290

342

10

8

32

15

$\phi 13$

M12 bolt

210

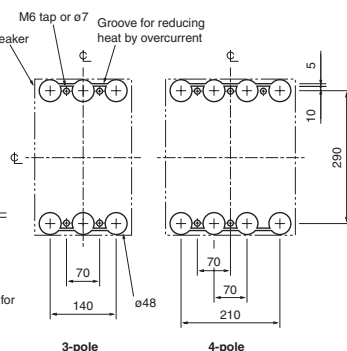
110

ϕ

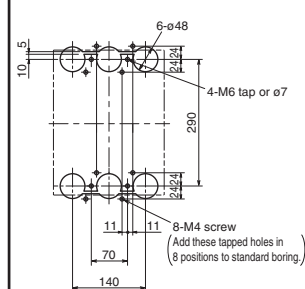
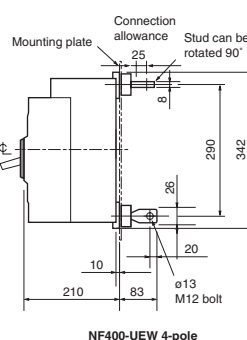
10

140

M6 mounting



Drilling plan



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

6. Characteristics and Dimensions

Molded-Case Circuit Breakers

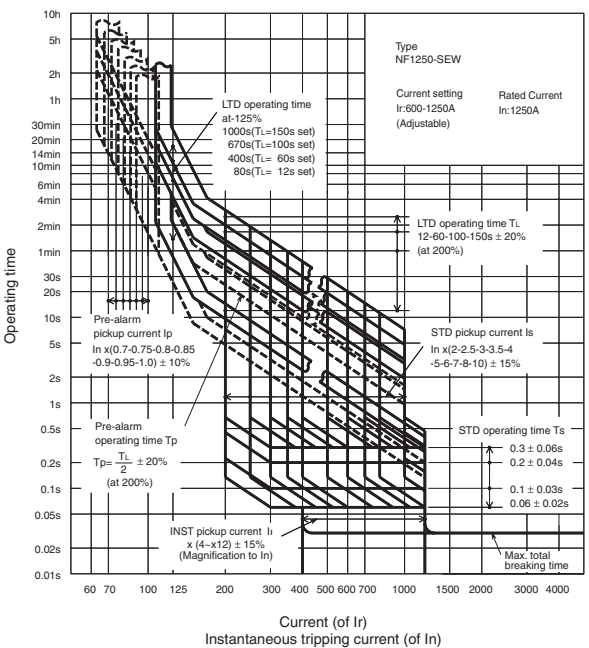
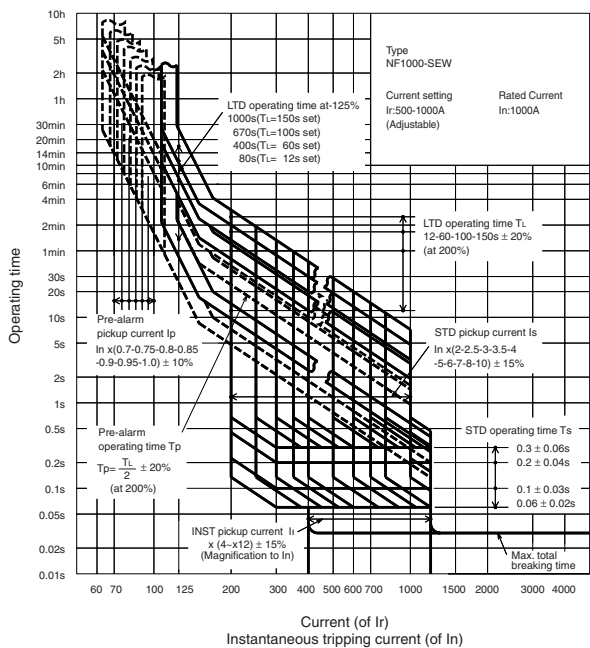
NF1000-SEW NF1250-SEW



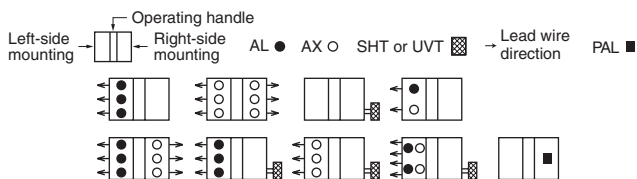
Type NF1250-SEW

Type name				NF1000-SEW		NF1250-SEW	
Rated current In (Amp.)				500–1000 Adjustable		600–1250 Adjustable	
Number of poles				3	4	3	4
Rated insulation voltage Ui (V)				690		690	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	25/13		25/13	
			500V	65/33		65/33	
			440V	85/43		85/43	
			400V	85/43		85/43	
			230V	125/63		125/63	
Standard Attached Parts			Front connection	Mounting screw: M8×40 (4pcs) Insulating barrier: (3P: 2pcs, 4P: 3pcs) Auxiliary handle: (1pc)			
			Rear connection	Mounting screw: M8×40 (4pcs) Insulating barrier: (3P: 2pcs, 4P: 4pcs) Auxiliary handle: (1pc)			

Operating Characteristics

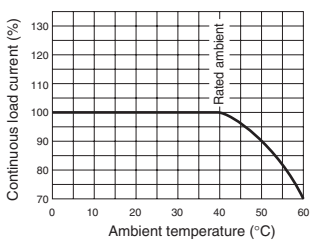


Internal Accessories



Remark: 1. Refer to page 49.

Current reduction curve



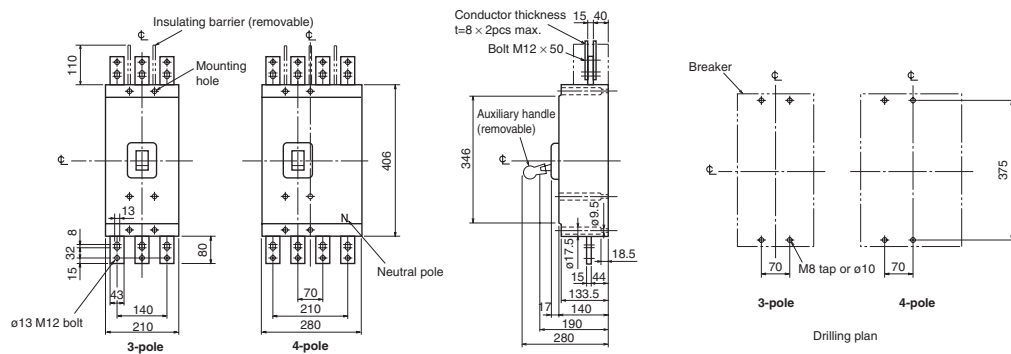
External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

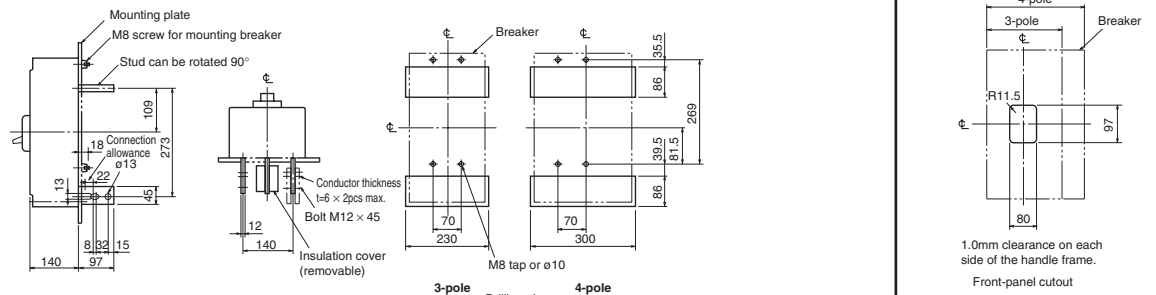
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F	F10SW (*1)	Auxiliary handle	HT-10SW	80
	S	S10SW		Handle lock (HL)	☆
Mechanical interlock (MI)	MI-10SW3 (*1)	79	Large terminal cover (TC-L)	TCL-10SW3 (*1)	70
			Electrical operation device	☆	71

Note (*1) The designation depends on the number of poles. Refer to the reference page.

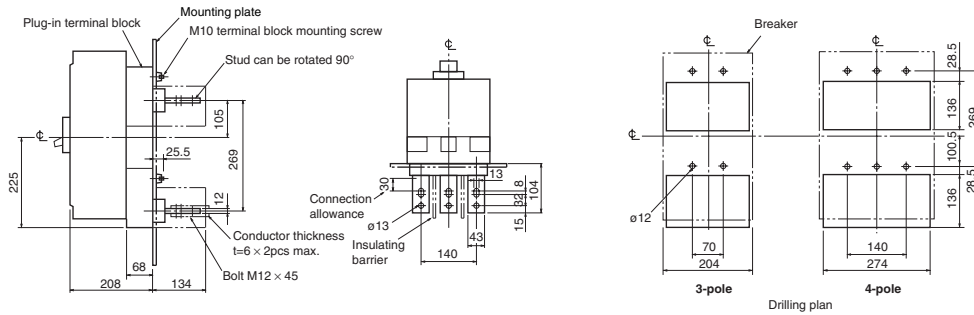
Front connection



Rear connection



Plug-in



6. Characteristics and Dimensions

Molded-Case Circuit Breakers

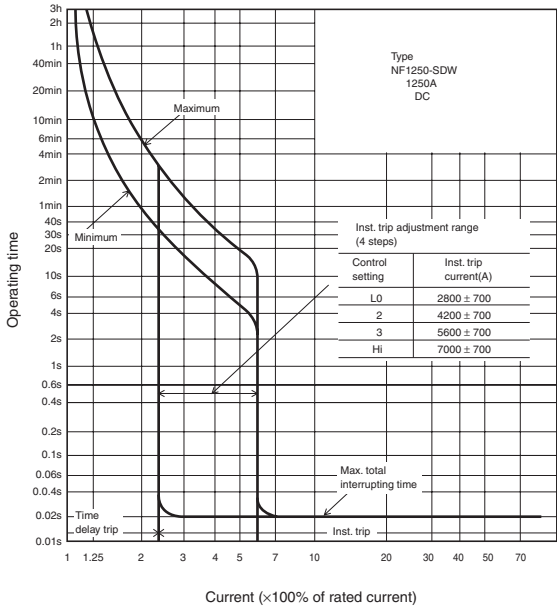
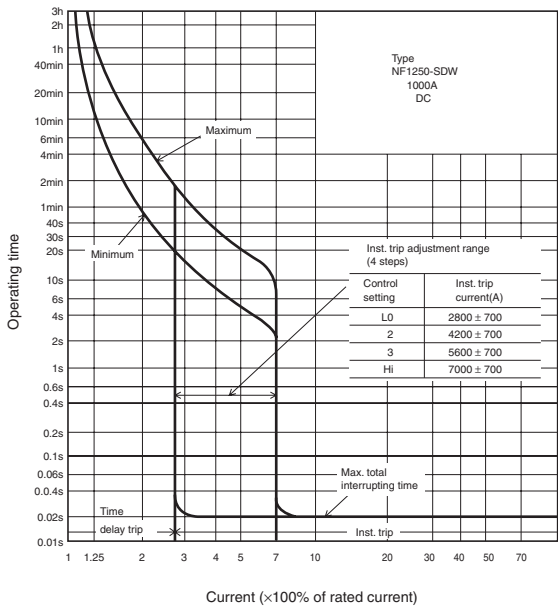
NF1250-SDW



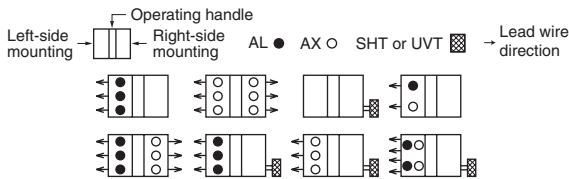
Type NF1250-SDW

Type name		NF1250-SDW	
Rated current In (Amp.)		1000, 1250	
Number of poles		2	
Rated insulation voltage Ui (V)		690	
Rated short-circuit breaking capacity (kA) IEC 60947-2 (Icu/Ics) Time constant not larger than 10ms	DC	250V	40/20
Standard Attached Parts	Front connection	Mounting screw: M8 × 40 (4pcs) Insulating barrier: (2P: 1pc, 3P: 2pcs, 4P: 3pcs) Auxiliary handle: (1pc)	
	Rear connection	Mounting screw: M8 × 40 (4pcs) Insulating cover: (3P: 2pcs, 4P: 4pcs) Auxiliary handle: (1pc)	

Operating Characteristics

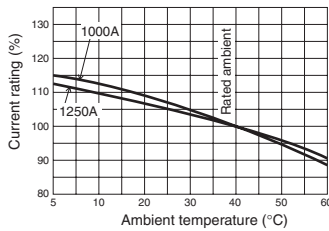


Internal Accessories



Remark: 1. Refer to page 49.

Ambient Compensating Curve



External Accessories

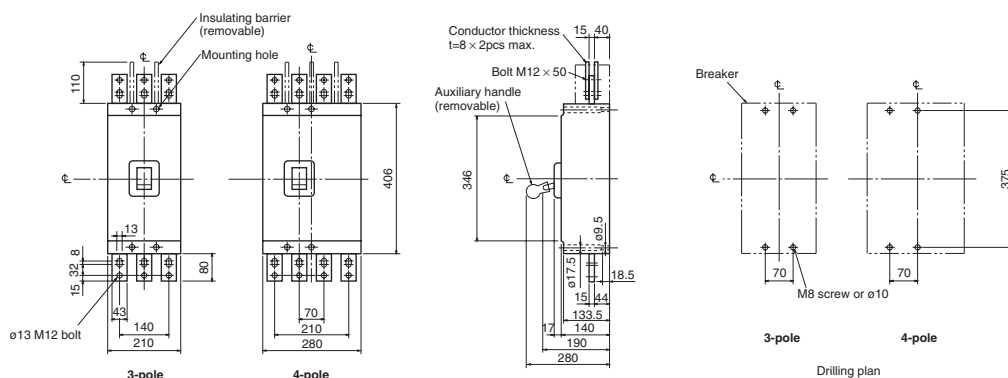
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F	F10SW (*1)	Auxiliary handle	HT-10SW	80
	S	S10SW	Handle lock (HL)	☆	
Mechanical interlock (MI)	MI-10SW3 (*1)	79	Large terminal cover (TC-L)	TCL-10SW3 (*1)	70
			Electrical operation device	☆	71

Note (*1) The designation depends on the number of poles. Refer to the reference page.

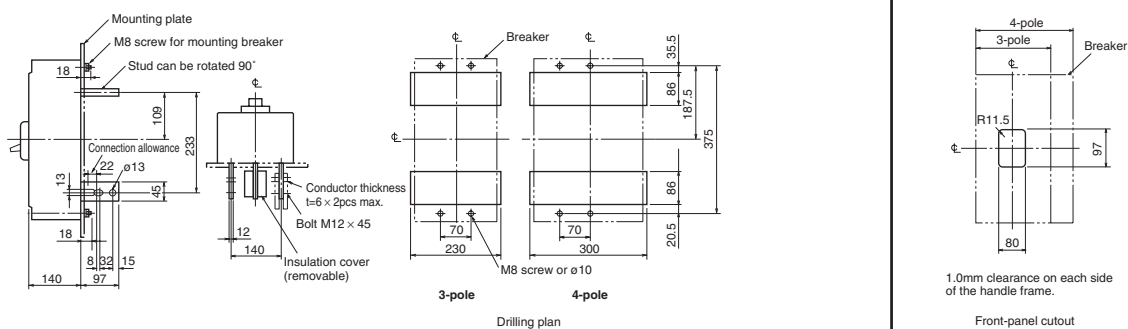
Front connection

Outside dimensions are same as those of NF1000-SEW and NF1250-SEW.



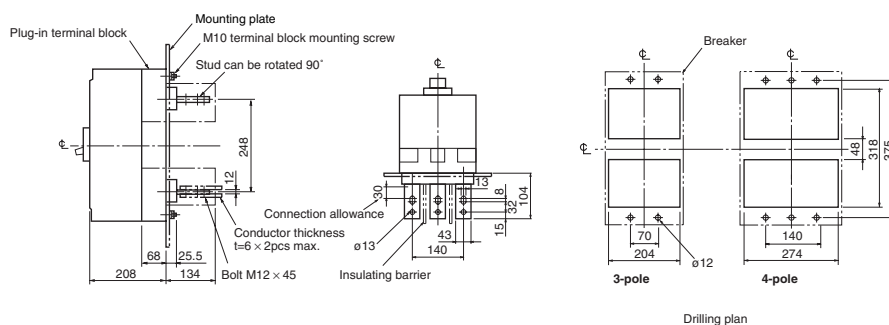
Rear connection

Outside dimensions are different from those of NF1000-SEW and NF1250-SEW.



Plug-in

Outside dimensions are different from those of NF1000-SEW and NF1250-SEW.



Remark: 1. Standard specifications of NF1250-SDW is 2-pole models. 3-pole and 4-pole models are for DC special voltage.
2. 2-pole models are 3-pole models with the central pole removed.

6. Characteristics and Dimensions

Molded-Case Circuit Breakers

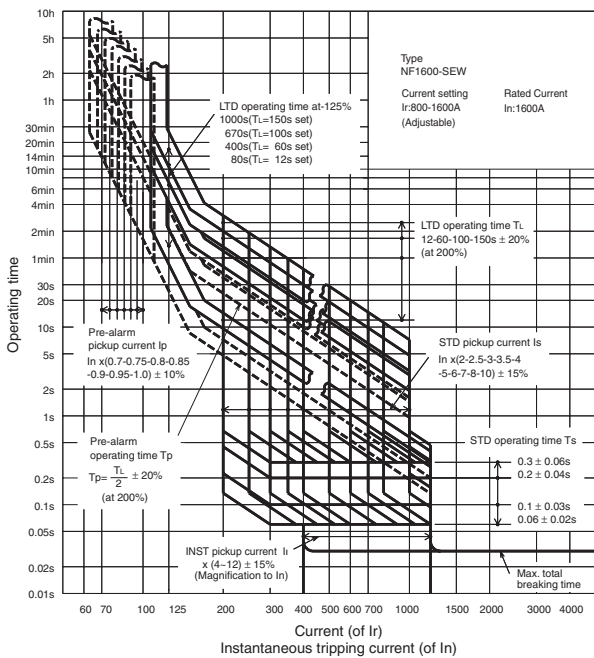
NF1600-SEW



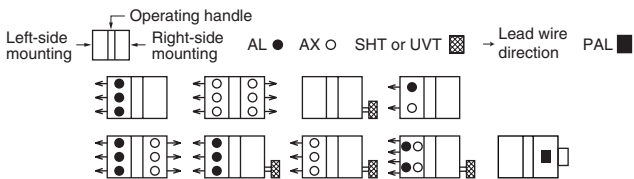
Type NF1600-SEW

Type name				NF1600-SEW	
Rated current In (Amp.)				Adjustable 800–1600	
Number of poles				3	4
Reted insulation voltage Ui (V)				690	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	25/13	
			500V	65/33	
			440V	85/43	
			400V	85/43	
			230V	125/63	
Standard Attached Parts			Front connection	Mounting screw: M8 × 40 (4pcs) Insulating barrier: (3P: 2pcs, 4P: 3pcs) Auxiliary handle: (1pc)	
			Rear connection	Mounting screw: M8 × 40 (4pcs) Auxiliary handle: (1pc)	

Operating Characteristics

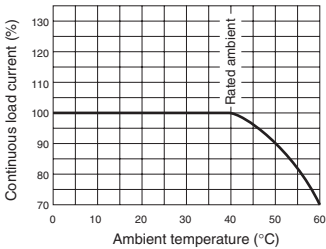


Internal Accessories



Remark: 1. Refer to page 49.

Current reducing curve



External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F10SW (※1)	—	Auxiliary handle	HT-10SW	80
	S S10SW	68	Handle lock (HL)	☆	
Mechanical interlock (MI)	MI-16SW3 (※1)	79	Electrical operation device	☆	71

Note (※1) The designation depends on the number of poles. Refer to the reference page.

Technical drawings of the 3-pole and 4-pole breaker assembly, including side and front views with dimensions and labels.

3-pole view (left):

- Insulating barrier 60 (removable)
- Mounting hole
- Dimensions: 105.5, 210, 203, 263, 115

4-pole view (middle):

- Conductor thickness $t = 6 \times W75$ max.
- Dimensions: 105.5, 280, 406, 101.5, 304.5, 364.5, 130
- Neutral pole

Side view (right):

- Bolt M10 $\times$ 65
- Auxiliary handle (removable)
- Dimensions: 20, 35, 18.5, 346, 17, 140, 280, 139.5, 140, 49.5, 20, 17.5, 50

Drilling plan (bottom right):

- Breaker
- 3-pole
- 4-pole
- M8 tap or $\phi 10$
- Dimensions: 375, 70, 70

The technical drawings illustrate the 3-pole and 4-pole versions of the 100A circuit breaker. The 3-pole version is shown with a width of 140mm and a height of 273mm. The 4-pole version is shown with a width of 210mm and a height of 273mm. Both versions feature a mounting angle and a stud that can be rotated 90°. The drawings also show the connection allowance and the conductor thickness (t=6 x W75 max.). The 3-pole version has a mounting angle of 140mm and a stud diameter of 11mm. The 4-pole version has a mounting angle of 210mm and a stud diameter of 11mm. The drawings also show the connection allowance and the conductor thickness (t=6 x W75 max.). The 3-pole version has a mounting angle of 140mm and a stud diameter of 11mm. The 4-pole version has a mounting angle of 210mm and a stud diameter of 11mm.

6. Characteristics and Dimensions

Molded-Case Circuit Breakers

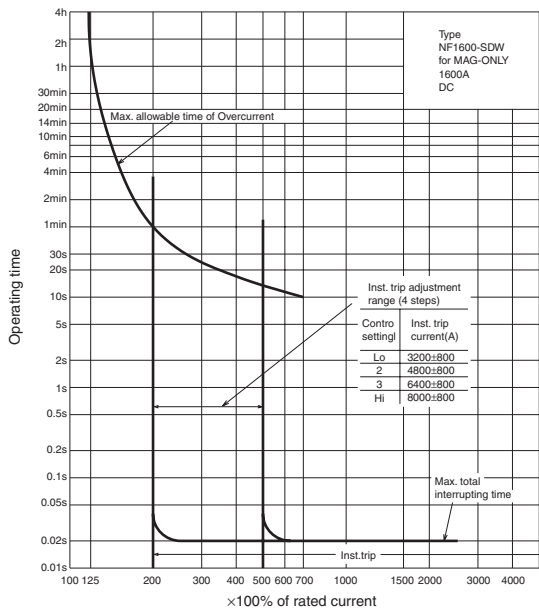
NF1600-SDW



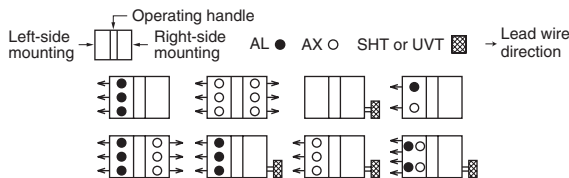
Type NF1600-SDW

Type name		NF1600-SDW	
Rated current In (Amp.)		1600	
Number of poles		2	
Rated insulation voltage Ui (V)		690	
Rated short-circuit breaking capacity (kA) IEC 60947-2 (Icu/Ics) Time constant not larger than 10msec	DC	250V	40/20
Standard Attached Parts	Front connection	Mounting screw: M8 × 40 (4pcs) Insulating barrier: (2P: 1pc, 3P: 2pcs, 4P: 3pcs) Auxiliary handle: (1pc)	
	Rear connection	Mounting screw: M8 × 40 (4pcs) Auxiliary handle: (1pc)	

Operating Characteristics



Internal Accessories



Remark: 1. Refer to page 49.

External Accessories

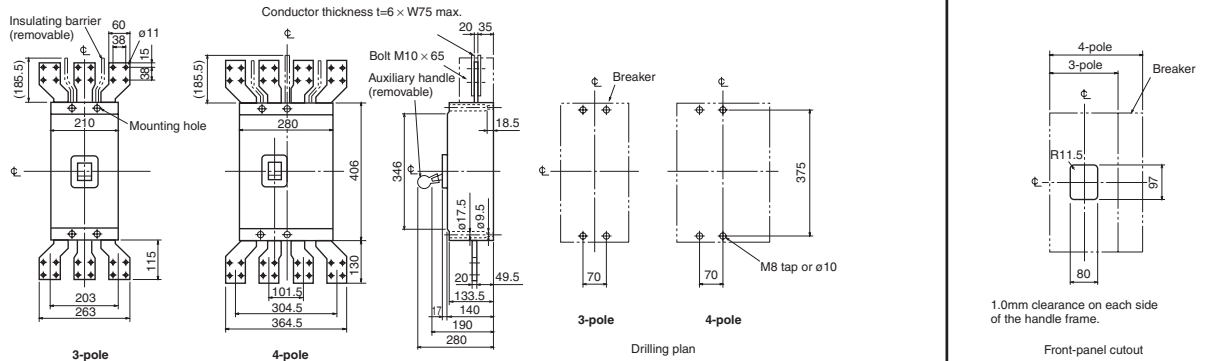
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F10SW (*1)	—	Auxiliary handle	HT-10SW	80
	S S10SW	68	Handle lock (HL)	☆	
Mechanical interlock (MI)	MI-16SW3 (*1)	79	Electrical operation device	☆	71

Note (*1) The designation depends on the number of poles. Refer to the reference page.

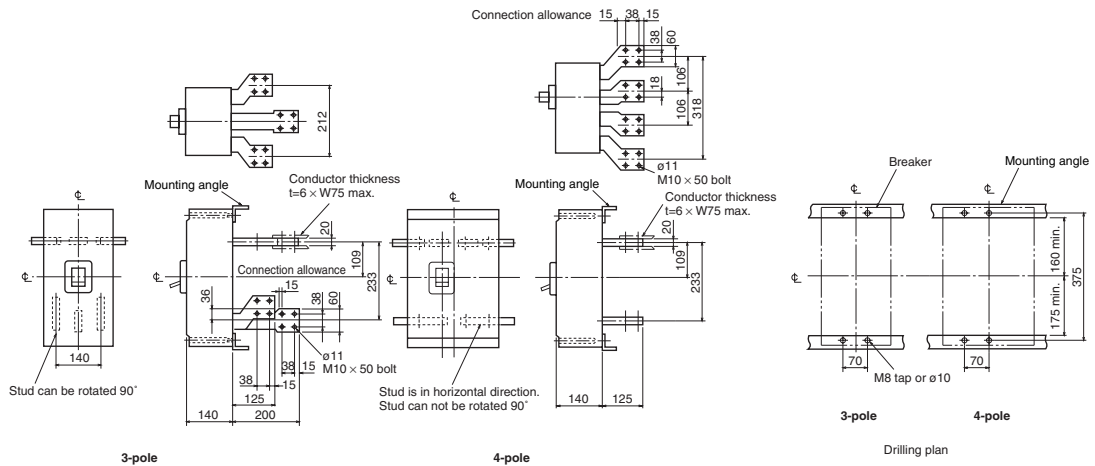
Front connection

Outside dimensions are same as those of NF1600-SEW.



Rear connection

Outside dimensions are different from those of NF1600-SEW.



Remark: 1. Standard specification of NF1600-SDW is 2-pole model. 3-pole and 4-pole models are for DC special voltage.
2. 2-pole models are 3-pole models with the central pole removed.

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

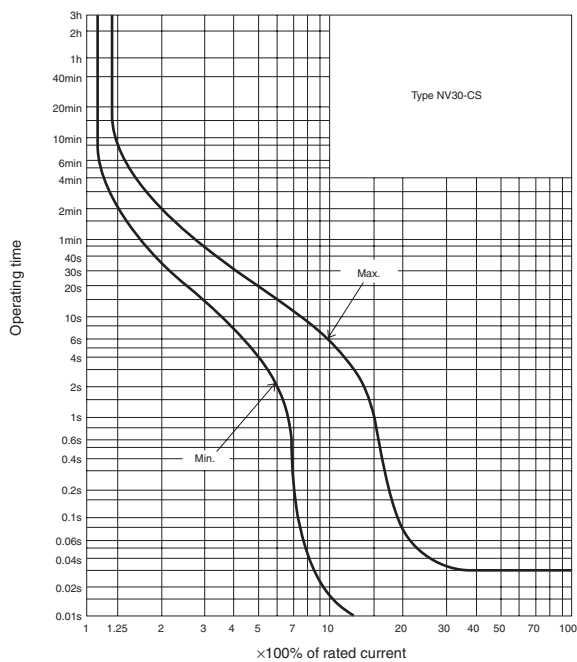
NV30-CS



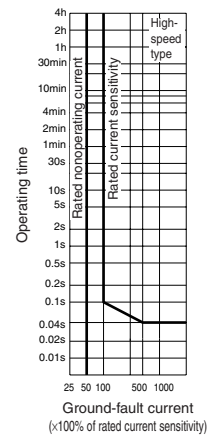
Type NV30-CS

Type name			NV30-CS	
Number of poles			3	
Rated operational voltage Ue (V AC)			100–230 Multi-voltage type	
Rated current In (A)			5 10 15 20 30	
High-speed type	Rated current sensitivity IΔn (mA)		30	
	Max.operating time at 5IΔn (s)		0.04	
Time-delay type	Rated current sensitivity IΔn (mA)		—	
	Max.operating time at 2IΔn (s)		—	
	Inertial non-operating time at 2IΔn (s)		—	
Earth-leakage indication system			Button	
Rated short-circuit breaking capacity (kA) IEC 60947-2 2nd. ed Icu/Ics	AC	440V	—	
		400V	—	
		230V	2.5/2	
Standard Attached Parts (Front connection)			Mounting screw: M4 × 0.7 × 20 (2pcs.)	

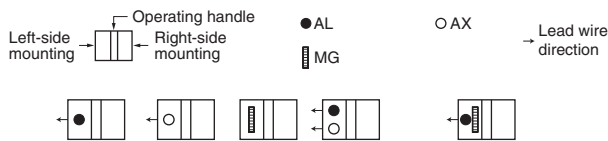
Operating Characteristics



Earth-Leakage Tripping Characteristics

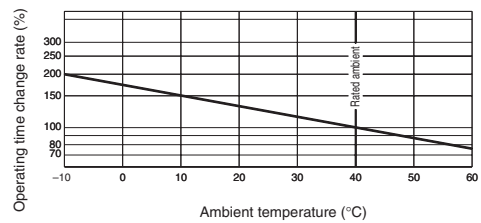


Internal Accessories



Remark: 1. Standard lead wire is drawn from side. However, lead wire drawn by load can be produced upon request.
2. Refer to page 48.

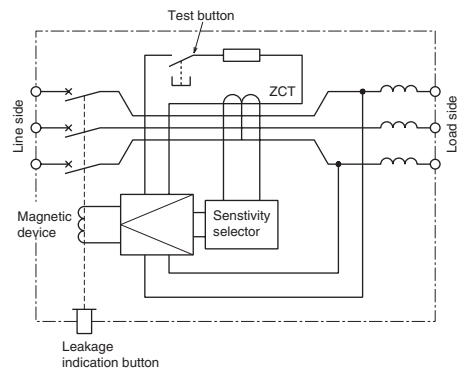
Temperature Characteristics



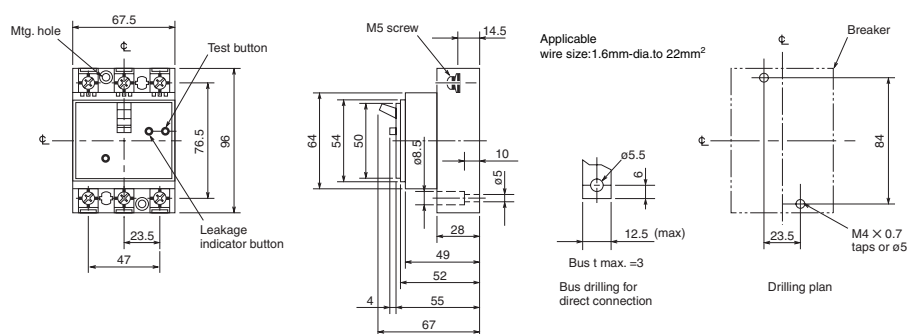
External Accessories

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Lock cover (LC)	LC03CS	80	Small (TC-S)	TCS-03CS3W	70
Rail mounting adapter	DIN-03CS	80	Large (TC-L)	TCL-03CS3W	
Handle lock device	HL-05FH	80	Rear (BTC)	BTC-03CS	
			Skeleton (TTC)	TTC-03CS	

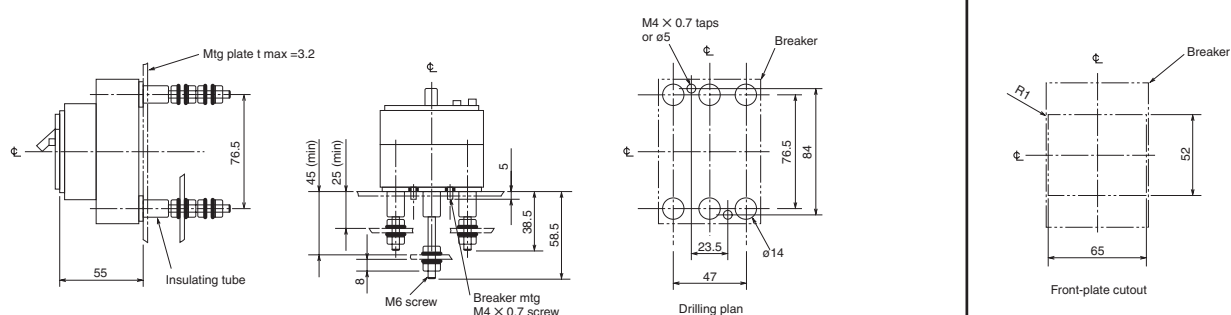
Internal Wiring Diagram



Front connection



Rear connection



6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

NV32-SW
NV63-SW

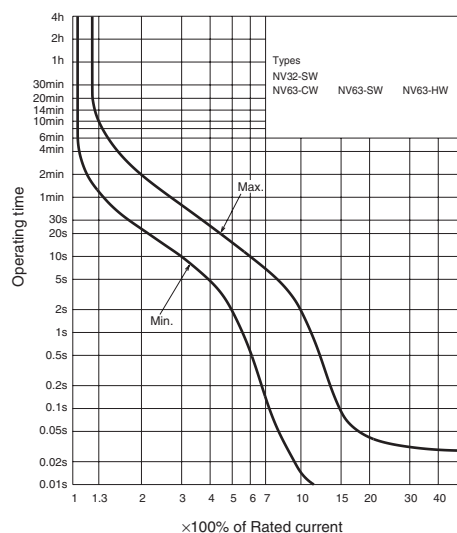
NV63-CW
NV63-HW



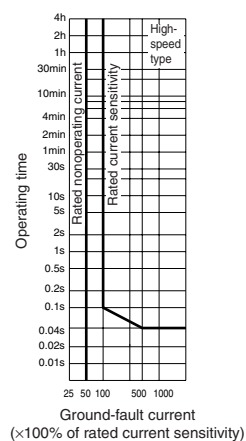
Type NV63-SW

Type name		NV32-SW	NV63-CW	NV63-SW	NV63-HW
Rated current I_n (Amp.)		(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	3	3	3
Rated operational voltage U_e (V AC)		100–440	100–440	100–440	100–440
		Multi-voltage type	Multi-voltage type	Multi-voltage type	Multi-voltage type
High-speed type	Rated current sensitivity $I_{\Delta n}$ (mA)	30,100•200•500 Selectable	30,100•200•500 Selectable	30,100•200•500 Selectable	30,100•200•500 Selectable
	Max. operating time at $5I_{\Delta n}$ (s)	0.04	0.04	0.04	0.04
Earth-leakage indication system		Button	Button	Button	Button
Rated short-circuit breaking capacity (kA) IEC 60947-2 2nd. ed. (I_{cu}/I_{cs})	AC440V	5/2	2.5/1	7.5/4	10/5
	AC400V	5/2	5/2	7.5/4	10/5
	AC230V	10/5	7.5/4	15/8	25/13
Standard Attached Parts (Front connection)		Mounting screw: M4×0.7×55 (2pcs) Insulation barrier: (3P: 2pcs) excluding models of NV63-CW			

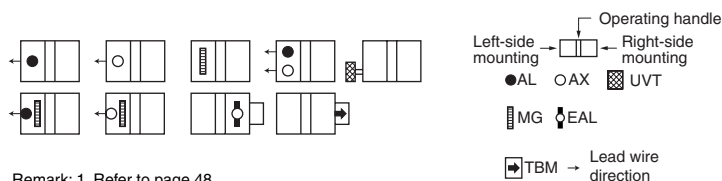
Operating Characteristics



Earth-Leakage Tripping Characteristics

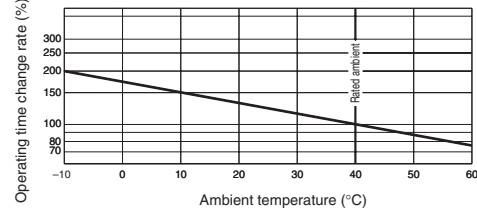


Internal Accessories



Remark: 1. Refer to page 48.

Temperature Characteristics

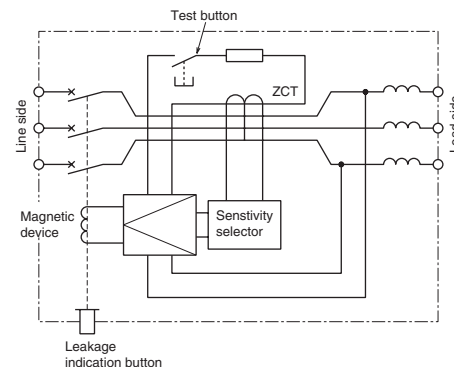


External Accessories

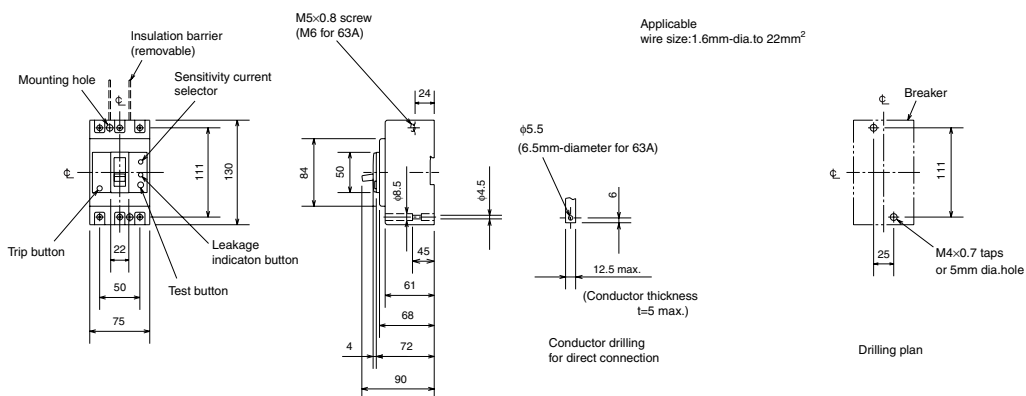
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-05S	61	Mechanical interlock	MI MI-05SW3 (*1)	79
	V V-05S	64			
	S S05SW	68	Terminal cover	Small TC-S	70
Handle lock device	LC LC-05SW	80	Large TC-L	TCL-05SW3W	
	(*1) HLF-05SW		Skeleton TTC	TTC-05SW3	
	HLN-05SW		Rear BTC	BTC-05SW3W	
	HL-S HLS-05SW		Plug-in PTC	PTC-05SW3W	
IEC 35mm rail mounting adapters			DIN-05SW		80

Note (*1) HLF and HLS types are used for OFF-lock, and HLN types for ON-lock.

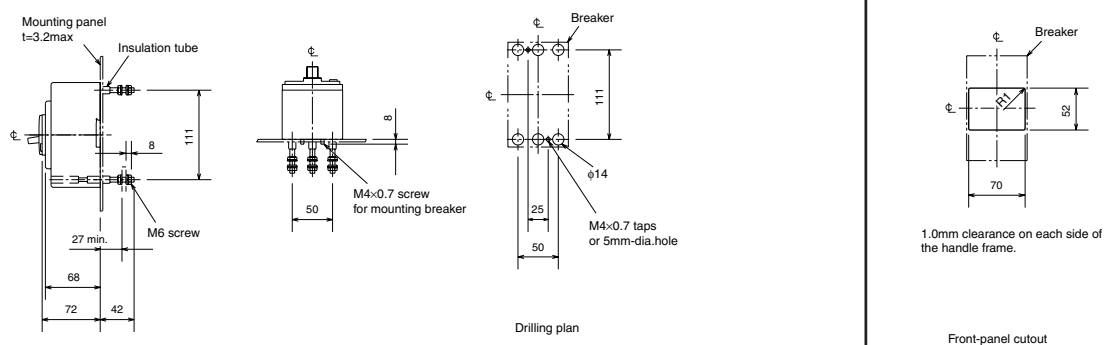
Internal Wiring Diagram



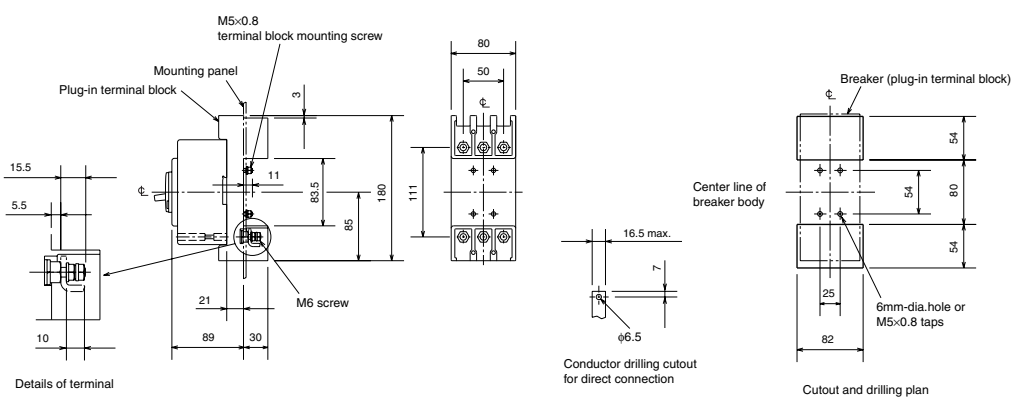
Front connection



Rear connection



Plug-in



6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

NV125-CW NV125-SW NV125-HW

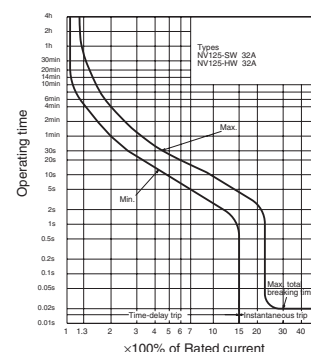
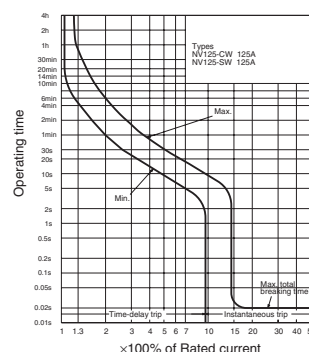
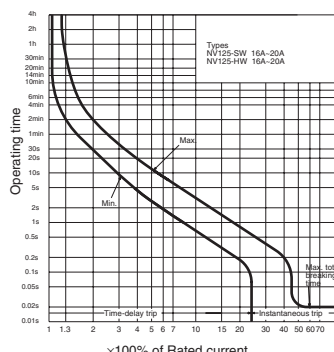
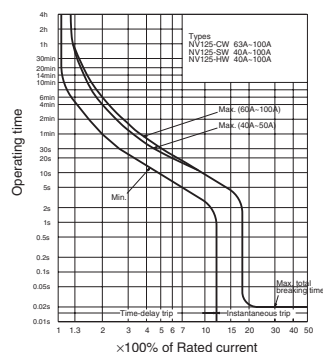


Type NV125-SW

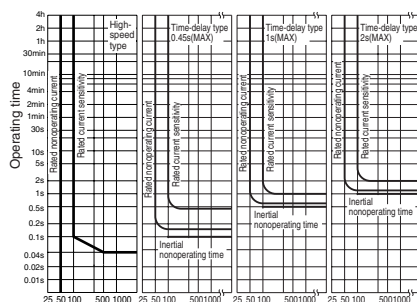
Type name		NV125-CW	NV125-SW		NV125-HW
Rated current I_n (Amp.) (*1)		63 (75) 80 100 125	(15) 16 20 (30) 32 40 50 (60) 63 (75) 80 100 (125 *2)	(15) 16 20 (30) 32 40 50 (60) 63 (75) 80 100	(15) 16 20 (30) 32 40 50 (60) 63 (75) 80 100
Number of poles		3	3	4	3
Rated operational voltage U_e (V AC) (*3)		100–440 Multi-voltage type	100–440 Multi-voltage type	200–440 Multi-voltage type	100–440 Multi-voltage type
High-speed type	Rated current sensitivity $I_{\Delta n}$ (mA)	30,100•200•500 Selectable	30,100•200•500 Selectable	30,100•200•500 Selectable	30,100•200•500 Selectable
	Max. operating time at $5I_{\Delta n}$ (s)	0.04	0.04	0.04	0.04
Time-delay type	Rated current sensitivity $I_{\Delta n}$ (mA)	(100•200•500) Selectable	(100•200•500) Selectable	(100•200•500) Selectable	(100•200•500) Selectable
	Max. operating time at $5I_{\Delta n}$ (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 non-operating time at $2I_{\Delta n}$ (s)	(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		Button	Button	Button	Button
Rated short-circuit breaking capacity (kA) IEC 60947-2 2nd. ed. (Icu/Ics)	AC440V	10/5	25/13	50/25	50/25
	AC400V	10/5	30/15	50/25	50/25
	AC230V	30/15	50/25	100/50	100/50
Standard Attached Parts (Front connection)		Mounting screw: M4×0.7×55 (3P: 2pcs, 4P: 4pcs) Insulation barrier: (3P: 2pcs, 4P: 3pcs) excluding models of NV125-CW			

Note (*1) The time-delayed types will be produced when they have the current specifications of 20A or more.
(*2) 3P only
(*3) Rated operational voltage of time-delay type is for 200–440V.

Operating Characteristics

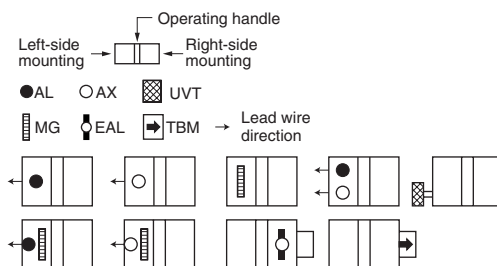


Earth-Leakage Tripping Characteristics



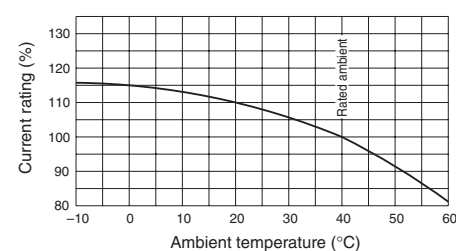
Ground-fault current (% of rated current sensitivity)

Internal Accessories



Remark: 1. Refer to page 48.

Temperature Characteristics

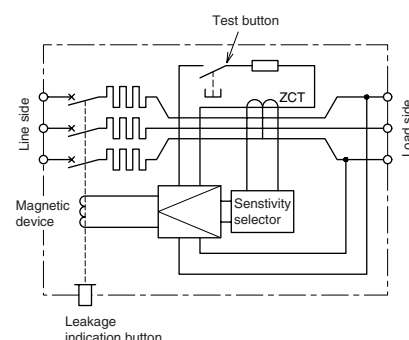


External Accessories

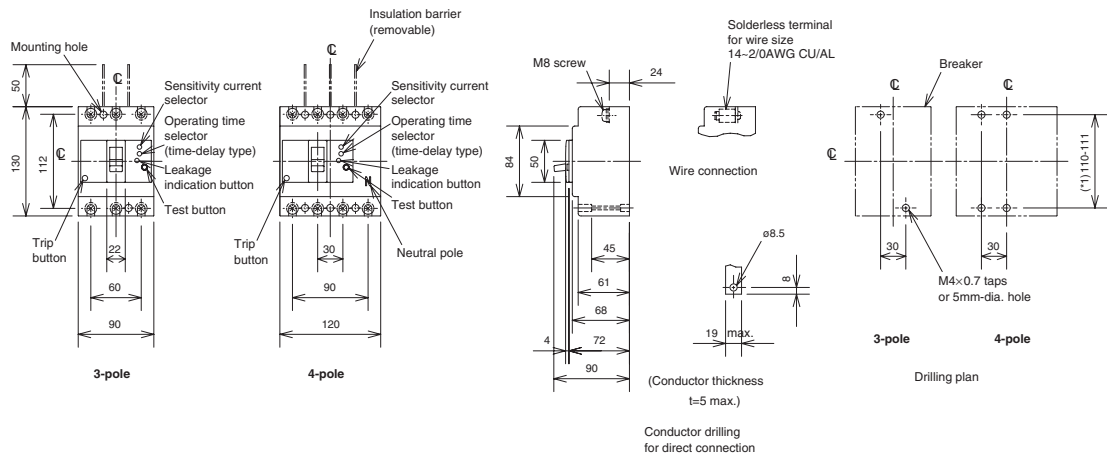
Accessories		Type name	Reference page	Accessories		Type name	Reference page	
Operating handle	F	F-1S	61	Mechanical interlock		MI	MI-05SW3 (※3)	79
	V	V-1S	64					
		S	S1SW	68	Terminal cover	Small	TC-S	TCS-1SW3W (※3)
Handle lock device	LC	LC-1SW	80	Large		TC-L	TCL-1SW3W (※3)	
	(※1) HL	HLF-1SW		Skeleton		TTC	TTC-1SW3 (※3)	
		HLN-1SW		Rear		BTC	BTC-1SW3W (※3)	
	HL-S	HLS-1SW		Plug-in		PTC	PTC-1SW3W (※3)	
				IEC 35mm rail mounting adapters		DIN-1SW (※3)	80	
				Electrical operation device		MDS-NV1SWE (※2)	71	

Note (*1) HLF and HLS types are used for OFF-lock, and HLN types for ON-lock.
(*2) Specify the working voltage.
(*3) The designation depends on the number of poles. Refer to the reference page.

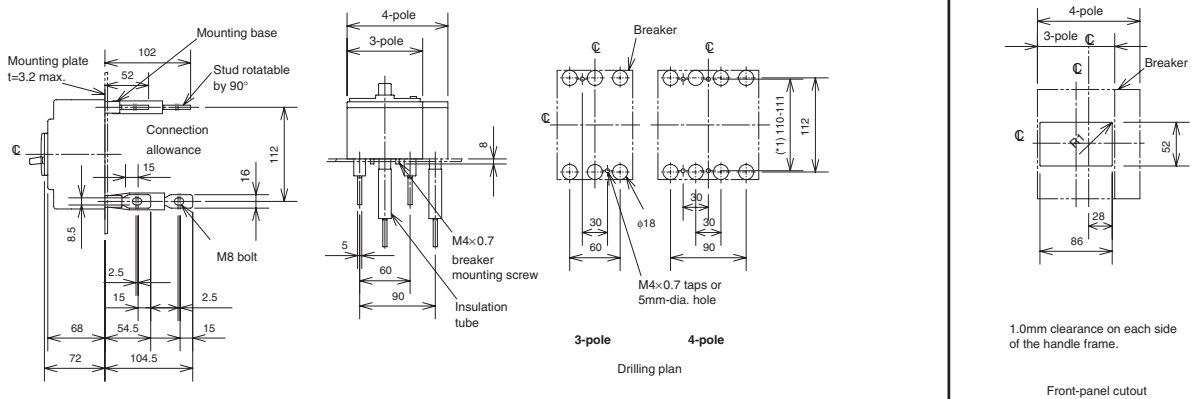
Internal Wiring Diagram



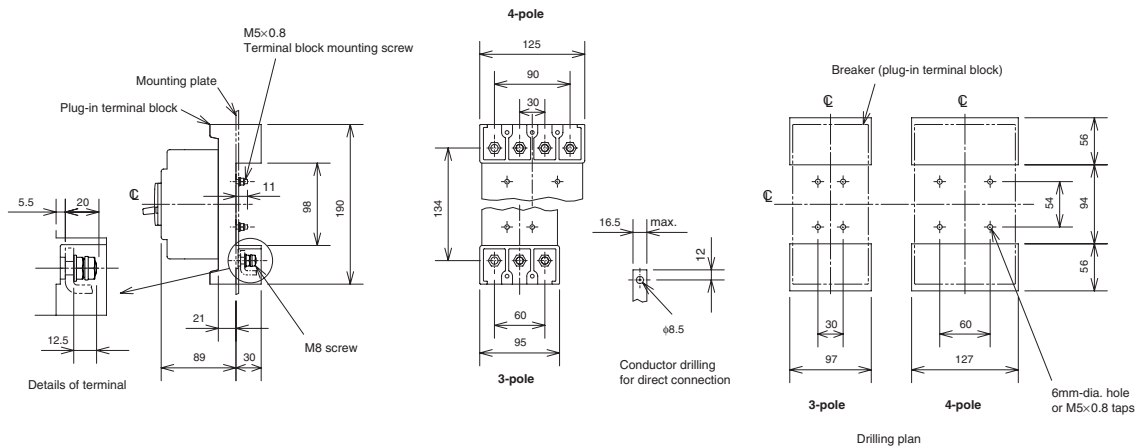
Front connection



Rear connection



Plug-in



Note (*1) It can respond to the attachment size of 110 and 111 both sides.

Remark: 1. NV125-CW is available in 3-pole only.

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

NV250-CW NV250-SW NV250-HW

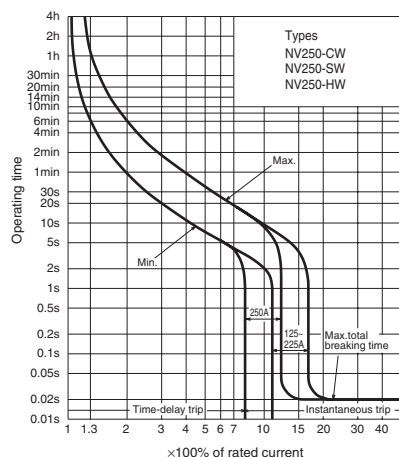


Type NV250-SW

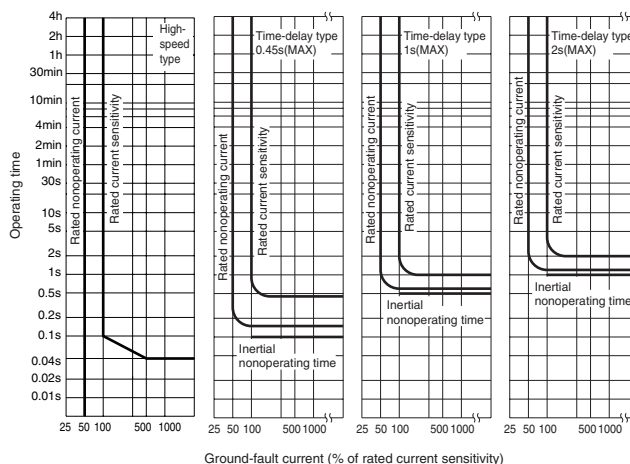
Type name		NV250-CW	NV250-SW	NV250-HW
Rated current I _n (Amp.)		125 150 175 200 225 250	125 150 175 200 225 250	125 150 175 200 225
Number of poles		3	3	4
Rated operational voltage U _e (V AC) (*1)		100-440 Multi-voltage type	100-440 Multi-voltage type	100-440 Multi-voltage type
High-speed type	Rated current sensitivity I _{Δn} (mA)	30, 100•200•500 Selectable	30, 100•200•500 Selectable	30, 100•200•500 Selectable
	Max. operating time at 5I _{Δn} (s)	0.04	0.04	0.04
Time-delay type	Rated current sensitivity I _{Δn} (mA)	(100•200•500) Selectable	(100•200•500) Selectable	(100•200•500) Selectable
	Max. operating time at 5I _{Δn} (s)	(0.45•1.0•2.0) Selectable	(0.45•1.0•2.0) Selectable	(0.45•1.0•2.0) Selectable
	Inertial non-operating time at 2I _{Δn} (s)	(0.1•0.5•1.0)	(0.1•0.5•1.0)	(0.1•0.5•1.0)
Earth-leakage indication system		Button	Button	Button
Rated short-circuit breaking capacity (kA) IEC 60947-2 2nd. ed. (I _{cu} /I _{cs})	AC440V	15/8	25/13	50/13
	AC400V	18/9	30/15	50/13
	AC230V	35/18	50/25	100/25
Standard Attached Parts (Front connection)		Mounting screw: M4×0.7×55 (3P: 2pcs, 4P: 4pcs) Insulation barrier: (3P: 4pcs, 4P: 6pcs)		

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

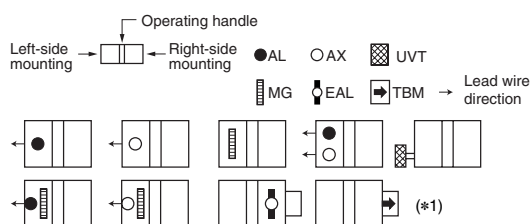
Operating Characteristics



Earth-Leakage Tripping Characteristics

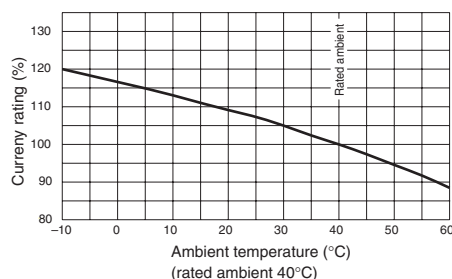


Internal Accessories



Note (*1) Refer to page 48.

Temperature Characteristics

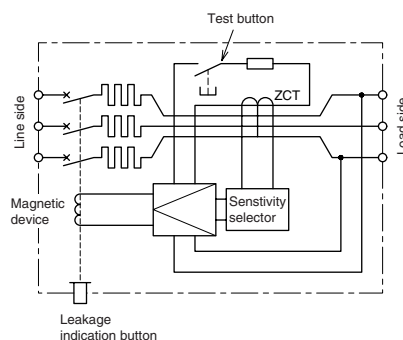


External Accessories

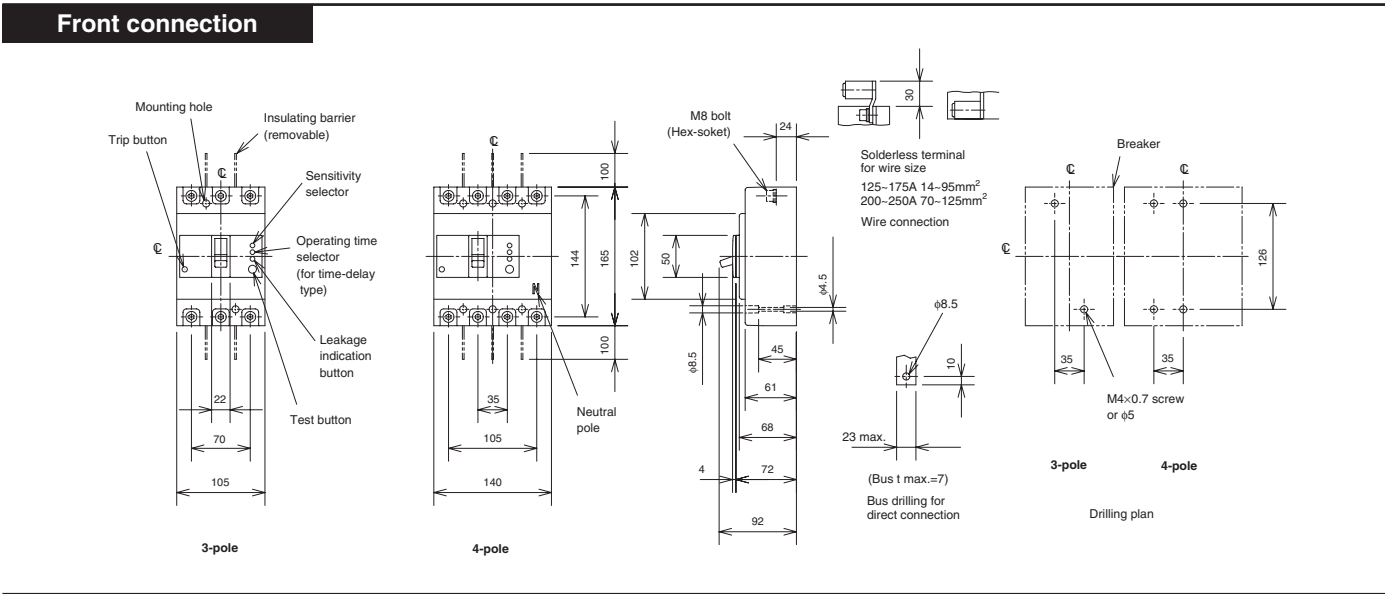
Accessories		Type name	Reference page	Accessories		Type name	Reference page		
Operating handle	F	F-2S	61	Mechanical interlock	MI	MI-05SW3 (*2)	79		
	V	V-2S	64		Terminal cover	Small	TC-S	TCS-2SW3W (*2)	70
	S	S2SW	68			Large	TC-L	TCL-2SW3W (*2)	
Handle lock device	LC	LC-2SW	80	Skeleton		TTC	TTC-2SW3 (*2)		
	(※1) HL	HLF-2SW		Rear		BTC	BTC-2SW3W (*2)		
	HLN-2SW	Plug-in		PTC		PTC-2SW3W (*2)			
	HLS	HLS-2SW							
				Electrical operation device	MDS-NV2SWE (*3)	71			

Note (*1) HLF types are used for OFF-lock, and HLN types for ON-lock.
(*2) The designation depends on the number of poles. Refer to the reference page.
(*3) Specify the working voltage.

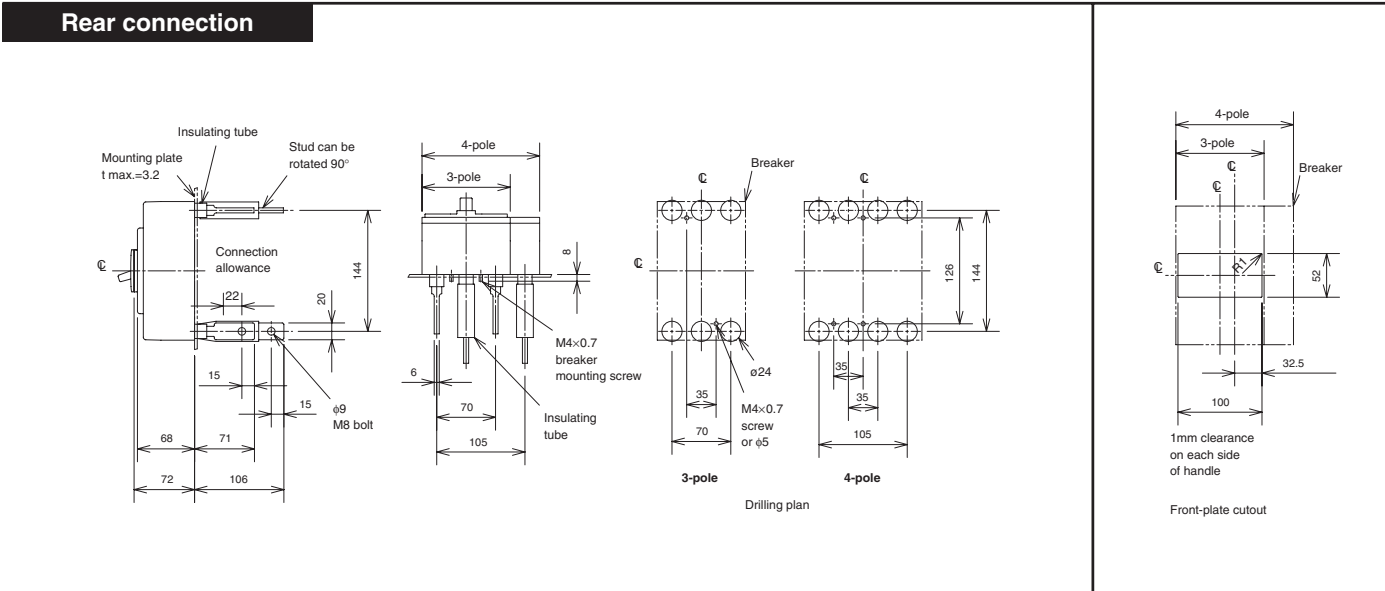
Internal Wiring Diagram



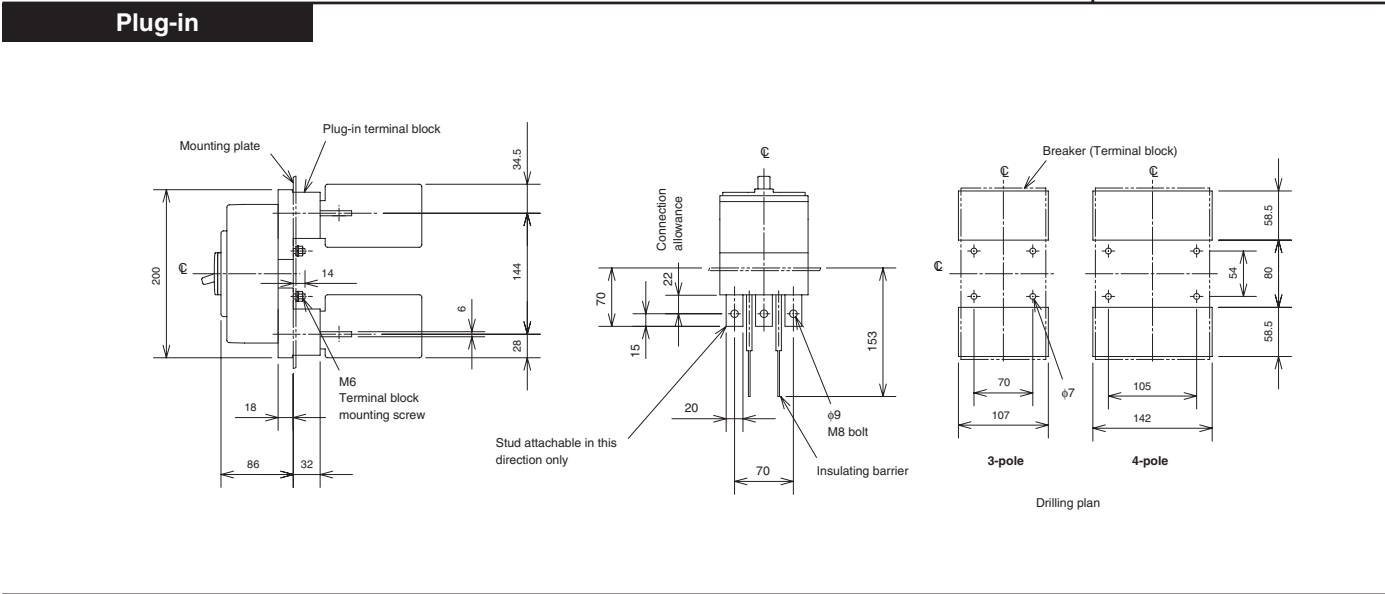
Front connection



Rear connection



Plug-in



Remark: 1. NV250-CW are available in 3-pole only.

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

NV250-SEW NV250-HEW

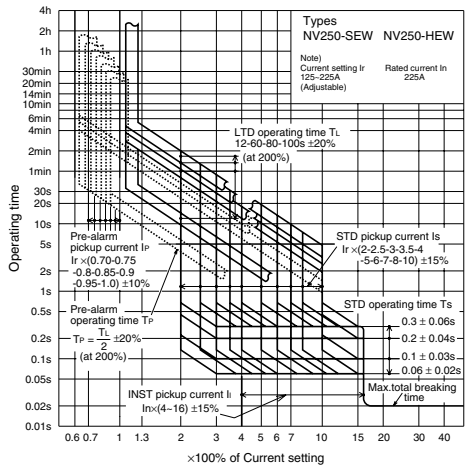


Type NV250-SEW

Type name		NV250-SEW	NV250-HEW
Rated current In (Amp.)		125-225 Adjustable	125-225 Adjustable
Number of poles		3 4	3 4
Rated operational voltage Ue (V AC) (*1)		100-440 Multi-voltage type	100-440 Multi-voltage type
High-speed type	Rated current sensitivity IΔn (mA)	(30) 100•200•500 Selectable	(30) 100•200•500 Selectable
	Max. operating time at 5IΔn (s)	0.04	0.04
Time-delay type	Rated current sensitivity IΔn (mA)	(100•200•500) Selectable	(100•200•500) Selectable
	Max. operating time at 5IΔn (s)	(0.45•1.0•2.0) Selectable	(0.45•1.0•2.0) Selectable
	Inertial non-operating time at 2IΔn (s)	(0.1•0.5•1.0)	(0.1•0.5•1.0)
Earth-leakage indication system		Button	Button
Rated short-circuit breaking capacity (kA) IEC 60947-2 2nd. ed. (Icu/Ics)	AC440V	25/13	50/13
	AC400V	30/15	50/13
	AC230V	50/25	100/25
Standard Attached Parts (Front connection)		Mounting screw: M4×0.7×55 (3P: 2pcs, 4P: 4pcs) Insulation barrier: (3P: 4pc, 4P: 6pcs)	

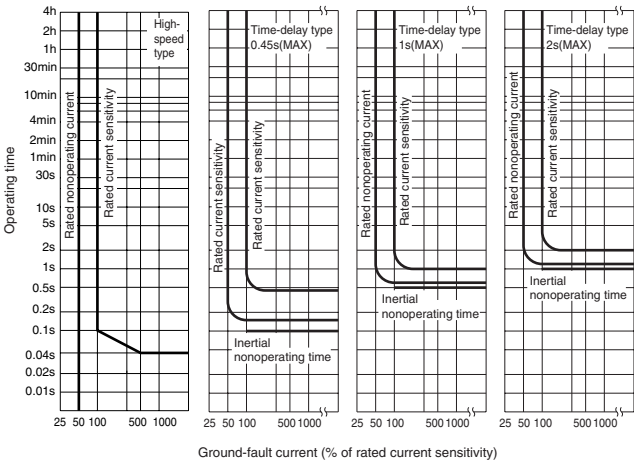
Note (*1) Rated operational voltage of time-delay type is for 200-440V.

Operating Characteristics

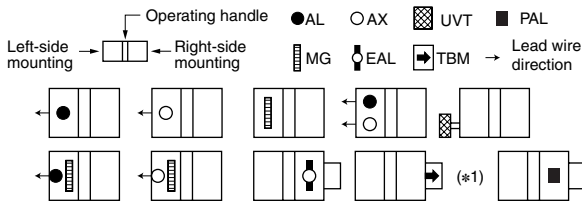


Note) Instantaneous tripping current (×100% of In)

Earth-Leakage Tripping Characteristics

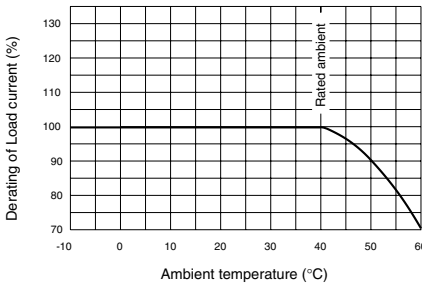


Internal Accessories



Note (*1) Refer to page 48.

Temperature Characteristics

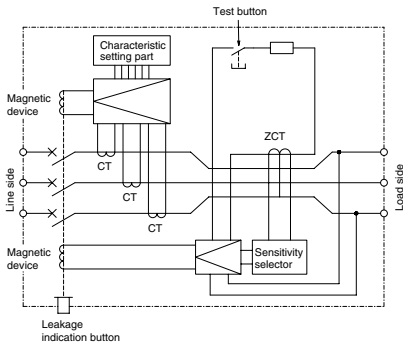


External Accessories

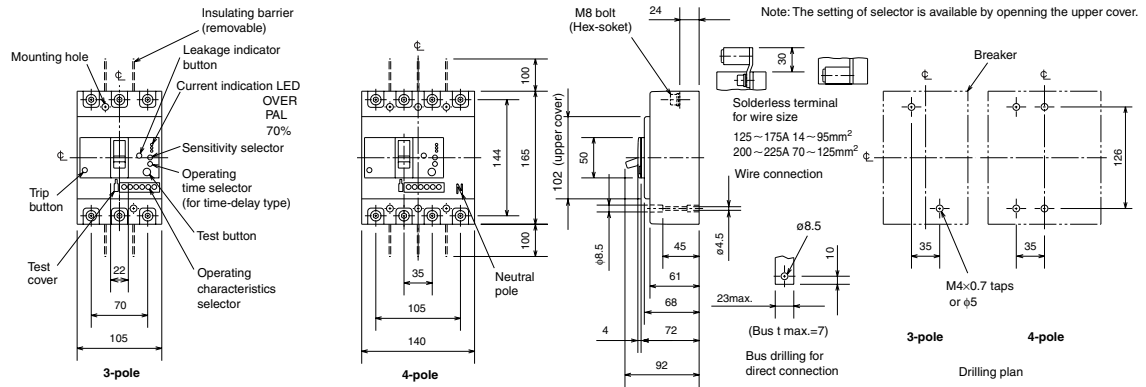
Accessories		Type name	Reference page	Accessories		Type name	Reference page	
Operating handle	F	F-2S	61	Terminal cover	Mechanical interlock	MI	MI-05SW3 (*2)	79
	V	V-2S	64					
	S	S2SW	68					
Handle lock device	LC	LC-2SW	80		Small	TC-S	TCS-2SW3W (*2)	70
	(※1) HL	HLF-2SW			Large	TC-L	TCL-2SW3W (*2)	
		HLN-2SW			Skeleton	TTC	TTC-2SW3 (*2)	
		HL-S			HLS-2SW	Rear	BTC	
				Plug-in	PTC	PTC-2SW3W (*2)		
				Electrical operation device		MDS-NVE2SWE (*3)	71	

Note (*1) HLF types are used for OFF-lock, and HLN types for ON-lock.
(*2) The designation depends on the number of poles. Refer to the reference page.
(*3) Specify the working voltage.

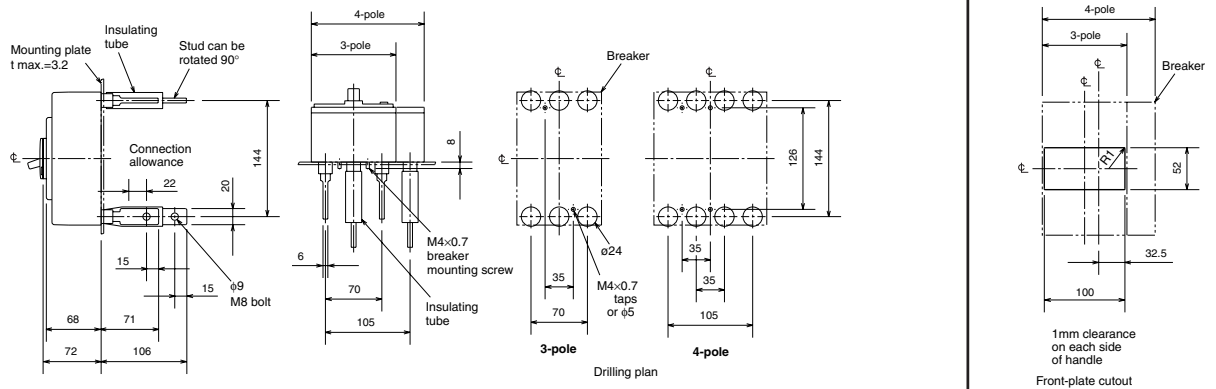
Internal Wiring Diagram



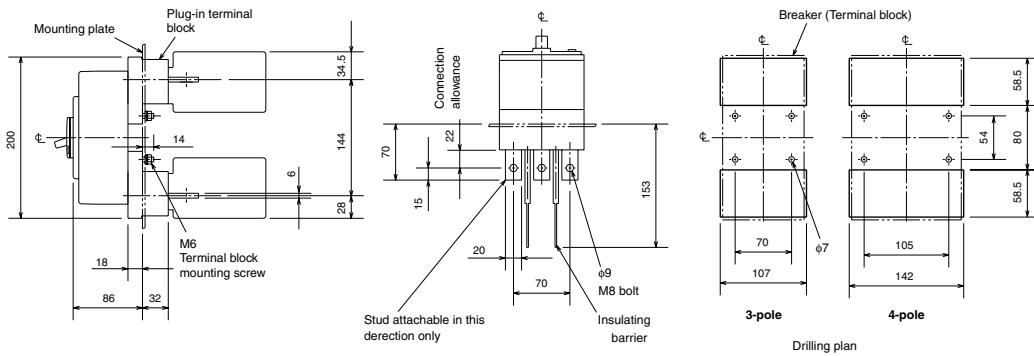
Front connection



Rear connection



Plug-in



6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

NV125-RW

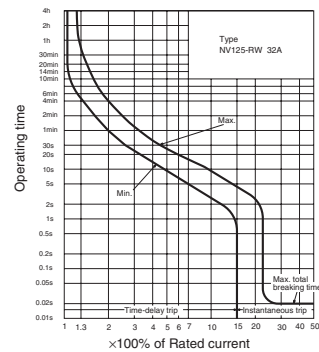
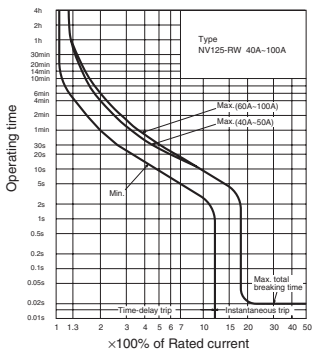
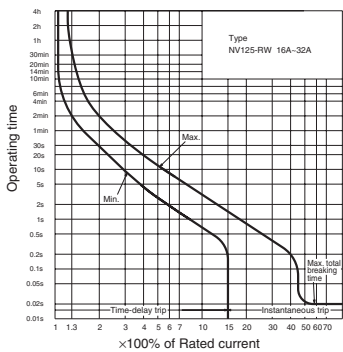


Type NV125-RW

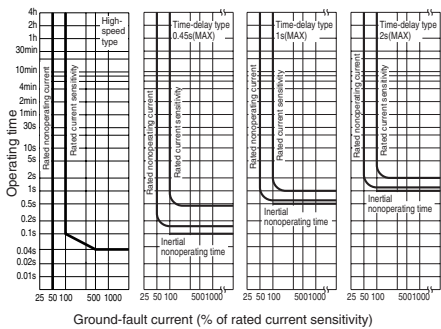
Type name		NV125-RW
Rated current I_n (Amp.) (*1)		(15) 16 20 (30) 32 40 50 (60) 63 (75) 80 100
Number of poles		3
Rated operational voltage U_e (V AC) (*2)		100–440 Multi-voltage type
High-speed type	Rated current sensitivity $I_{\Delta n}$ (mA)	(30) 100•200•500 Selectable
	Max. operating time at $5I_{\Delta n}$ (s)	0.04
Time-delay type	Rated current sensitivity $I_{\Delta n}$ (mA)	(100•200•500) Selectable
	Max. operating time at $5I_{\Delta n}$ (s)	(0.45•1.0•2.0) Selectable
	Inertial non-operating time at $2I_{\Delta n}$ (s)	(0.1•0.5•1.0)
Earth-leakage indication system		Button
Rated short-circuit breaking capacity (kA) IEC 60947-2 2nd. ed. (Icu/Ics)	AC440V	125/125
	AC400V	125/125
	AC230V	125/125
Standard Attached Parts (Front connection)		Mounting screw : M4×0.7×73 (4pcs) Insulation barrier : (3P:4pcs, 4P:6pcs)

Note (*1) The Time-delayed types will be produced when they have the current specifications of 20A or more.
(*2) Rated operational voltage of time-delay type is for 200-440V.

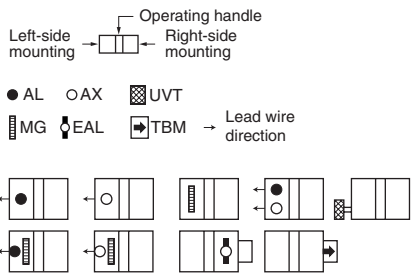
Operating Characteristics



Earth-Leakage Tripping Characteristics

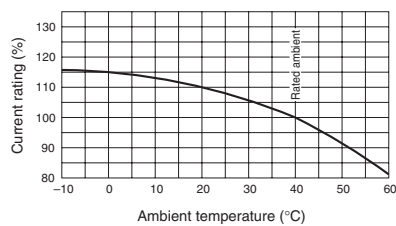


Internal Accessories



Remark: 1. Refer to page 48.

Temperature Characteristics

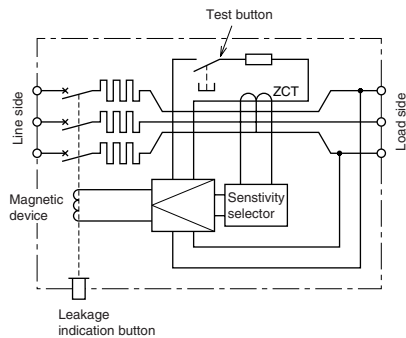


External Accessories

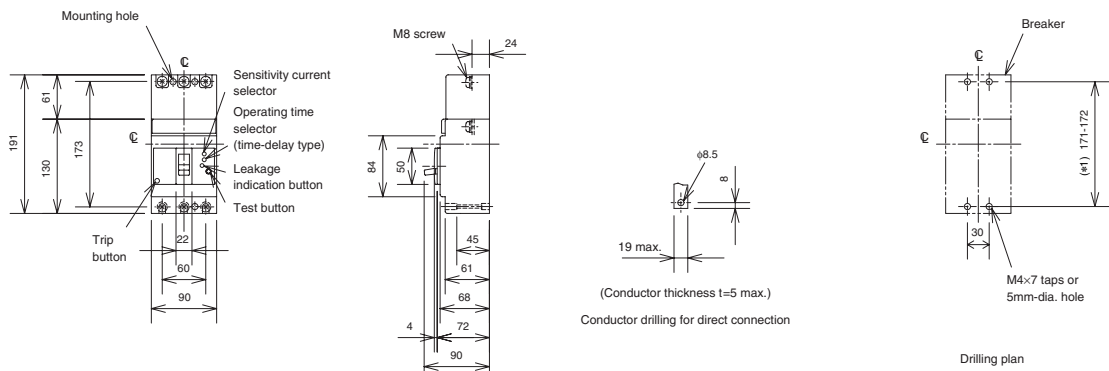
Accessories		Type name	Reference page	Accessories		Type name	Reference page	
Operating handle	F	F-1U	61	Terminal cover	Small	TC-S	TCS-1SW3W (*1)	70
	V	V-1U	64		Large	TC-L	TCL-1SW3W (*1)	
	S	S1SW	68		Skeleton	TTC	TTC-1SW3 (*1)	
Mechanical interlock	MI	MI-05SW3 (*1)	79		Rear	BTC	BTC-1SW3W (*1)	
Electrical operation device		—	—		Plug-in	PTC	PTC-1SW3W (*1)	
				Handle lock device	LC	LC-1SW	80	
					(※2) HLF	HLF-1SW		
					HLN	HLN-1SW		
					HL-S	HLS-1SW		

Note (*1) The designation depends on the number of poles. Refer to the reference page.
(*2) HLF and HLS types are used for OFF-lock, and HLN types for ON-lock.

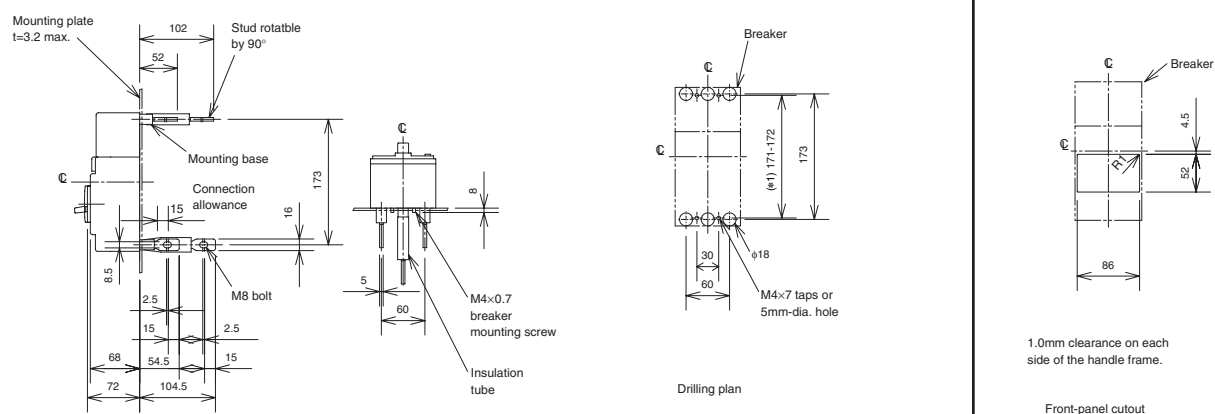
Internal Wiring Diagram



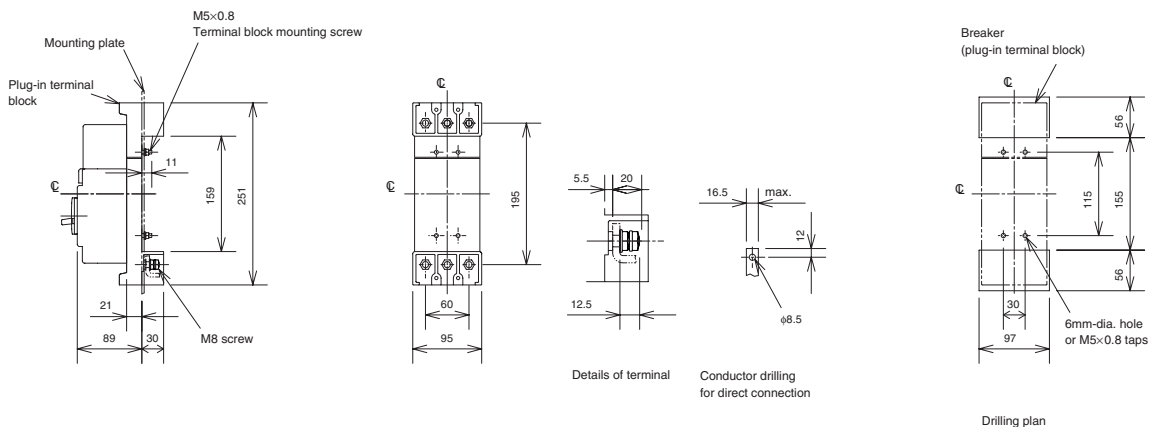
Front connection



Rear connection



Plug-in



Note (*1) It can respond to the attachment size of 171 and 172 both sides.

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

NV250-RW

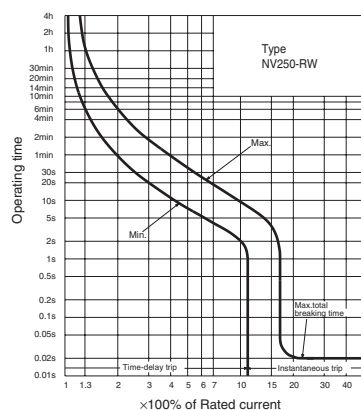


Type NV250-RW

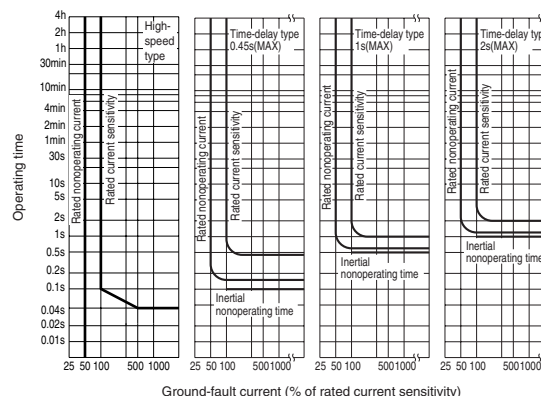
Type name	NV250-RW	
Rated current I_n (Amp.)	125 150 175 200 225	
Number of poles	3	
Rated operational voltage U_e (V AC) (*1)	100–440 Multi-voltage type	
High-speed type	Rated current sensitivity $I_{\Delta n}$ (mA)	(30) 100•200•500 Selectable
	Max. operating time at $5I_{\Delta n}$ (s)	0.04
Time-delay type	Rated current sensitivity $I_{\Delta n}$ (mA)	(100•200•500) Selectable
	Max. operating time at $5I_{\Delta n}$ (s)	(0.45•1.0•2.0) Selectable
	Inertial non-operating time at $2I_{\Delta n}$ (s)	(0.1•0.5•1.0)
Earth-leakage indication system		Button
Rated short-circuit breaking capacity (kA) IEC 60947-2 2nd. ed. (I_{cu}/I_{cs})	AC440V	125/125
	AC400V	125/125
	AC230V	125/125
Standard Attached Parts (Front connection)		Mounting screw : M4 × 0.7 × 55 (2pcs), M4 × 0.7 × 73 (2pcs) Insulation barrier : (4pcs)

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

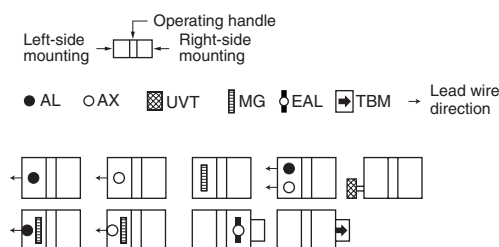
Operating Characteristics



Earth-Leakage Tripping Characteristics

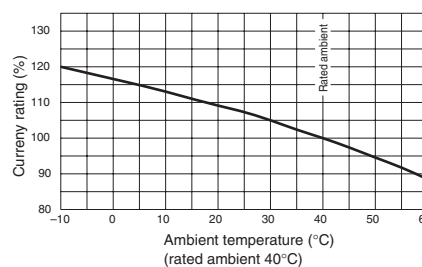


Internal Accessories



Remark 1. Refer to page 48.

Ambient Compensating Curve

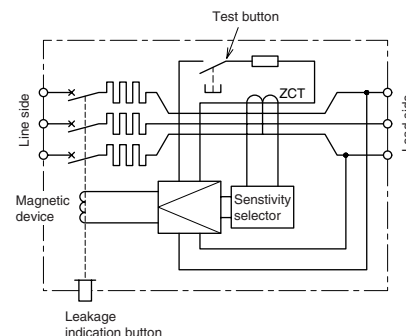


External Accessories

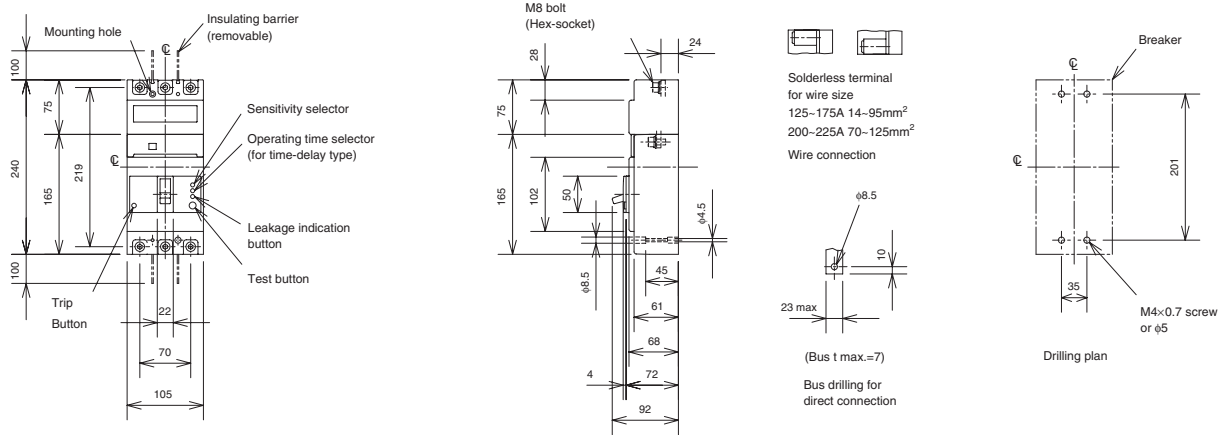
Accessories		Type name	Reference page	Accessories		Type name	Reference page	
Operating handle	F	F-2U	61	Mechanical interlock	MI	MI-05SW3 (*1)	79	
	V	V-2U	64					
	S	S2SW	68	Terminal cover	Small	TC-S	TCS-2SW3W (*1)	70
Handle lock device	LC	LC-2SW	80		Large	TC-L	TCL-2SW3W (*1)	
	(※2)	HLF-2SW			Skeleton	TTC	TTC-2SW3 (*1)	
	HL	HLN-2SW			Rear	BTC	BTC-2SW3W (*1)	
	HL-S	HLS-2SW			Plug-in	PTC	PTC-2SW3W (*1)	
					Electrical operation device	—	—	

Note (*1) The designation depends on the number of poles. Refer to the reference page.
 (*2) HLF types are used for OFF-lock, and HLN types for ON-lock.

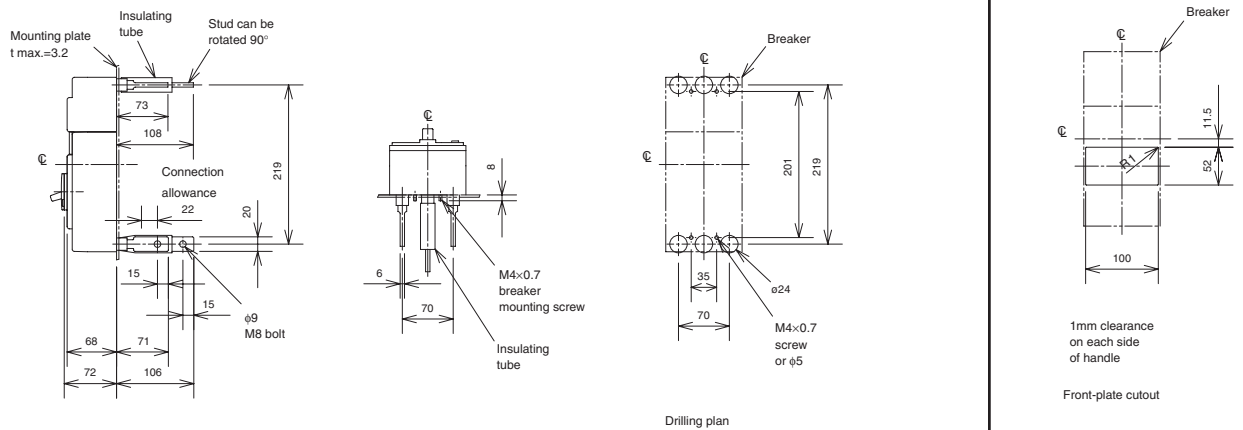
Internal Wiring Diagram



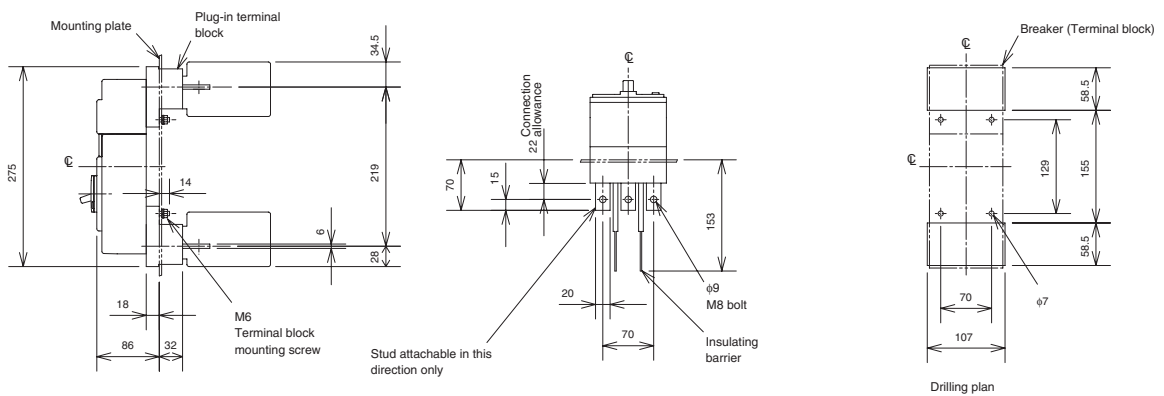
Front connection



Rear connection



Plug-in



6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

NV400-CW NV400-SW

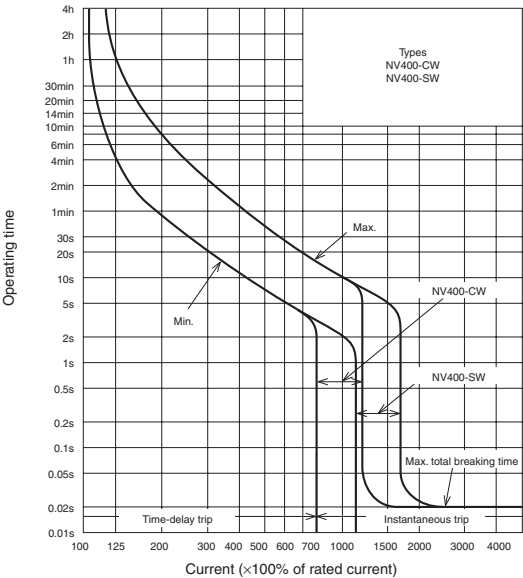


Type NV400-SW

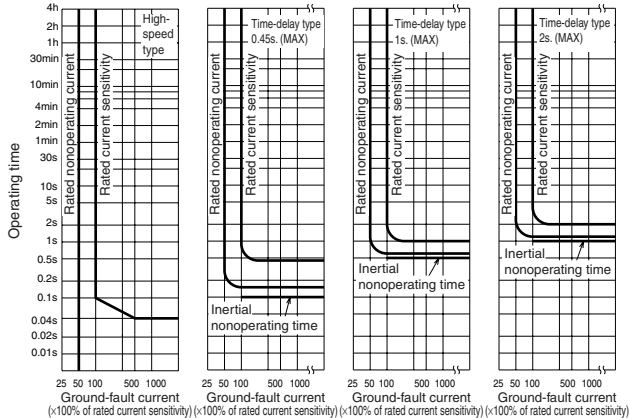
Type name			NV400-CW	NV400-SW
Number of poles			3	
Rated operational voltage Ue (V AC) (*1)			100-440 Multi-voltage type	
Rated current In (Amp.)			250 300 350 400	
High-speed type	Rated current sensitivity IΔn (mA)		(30) 100 · 200 · 500 Selectable	
	Max. operating time at 5IΔn (s)		0.04	
Time-delay 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 2nd. ed. (Icu/Ics)	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.

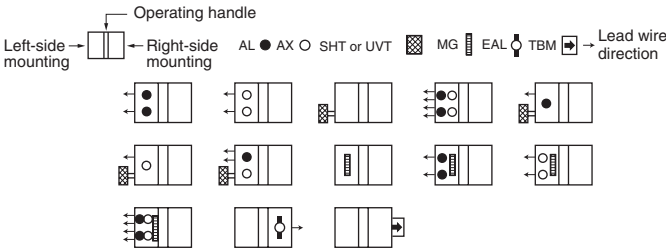
Operating Characteristics



Earth-Leakage Tripping Characteristics



Internal Accessories



Remark: 1. Refer to page 50 and 51.

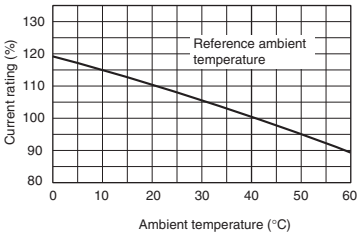
External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

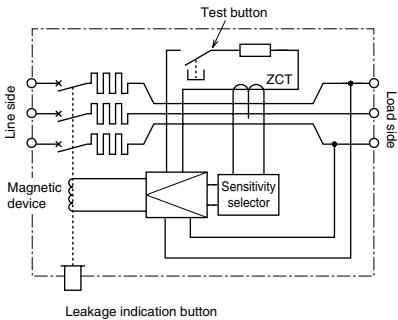
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Large (TC-L)	TCL-4SW3	70
	V V-4S	65	Skeleton (TTC)	TTC-4SW3	
	S S4CW, S4SW	68	Rear (BTC)	BTC-4SW3	
Mechanical interlock (MI)	MI-4SW3 (*1)	79	Handle lock device	HL HL-4CW, HL-4SW	80
Auxiliary handle (HT)	HT-4CW, HT-4SW	80	Electrical operation device	☆	71

Note (*1) The designation depends on the number of poles. Refer to the reference page.

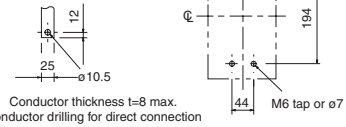
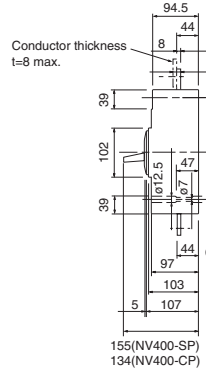
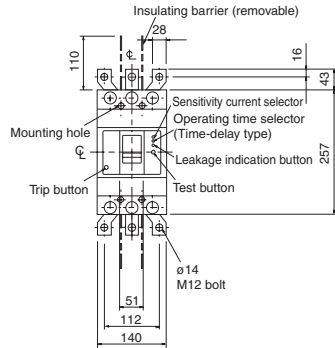
Ambient Compensating Curve



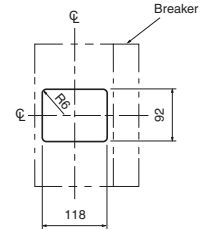
Internal Wiring Diagram



Front connection



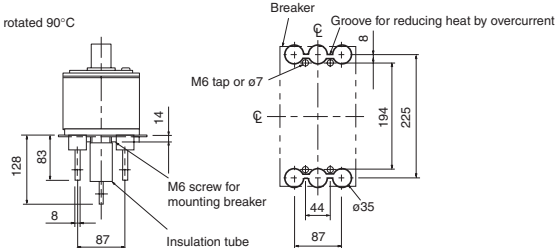
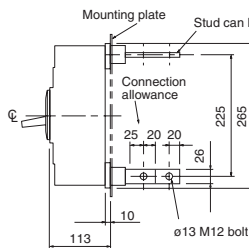
Drilling plan



1.0mm clearance on each side of the handle frame.

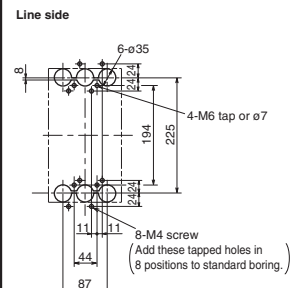
Front-panel cutout

Rear connection



Drilling plan

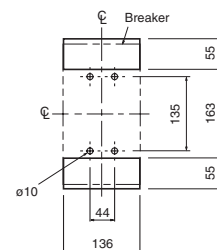
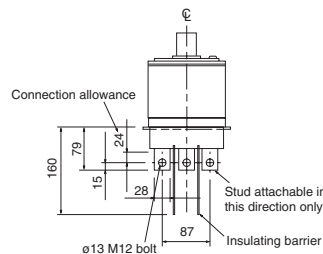
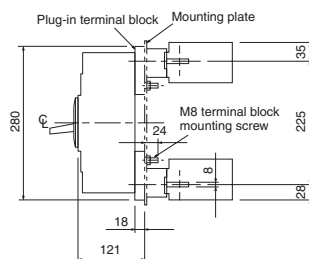
Boring dimensions for rear connection type barriers (3-pole)



Load side

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

Plug-in



Drilling plan

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

NV400-SEW NV400-HEW NV400-REW

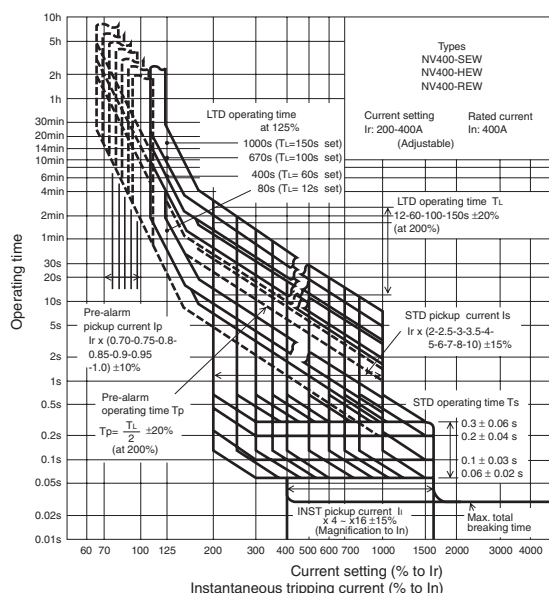


Type NV400-SEW

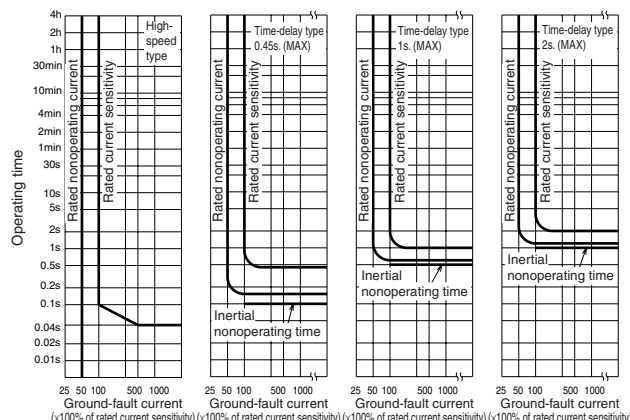
Type name			NV400-SEW		NV400-HEW		NV400-REW
Number of poles			3	4	3	4	3
Rated operational voltage Ue (V AC) (*1)			100-440 Multi-voltage type				
Rated current In (Amp.)			200-400 adjustable				
High-speed type	Rated current sensitivity IΔn (mA)		(30) 100 · 200 · 500 Selectable				
	Max. operating time 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 2nd. ed. (Icu/Ics)	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: M6×72 (4pcs) Insulation barrier: (3P: 4pcs, 4P: 6pcs)				

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

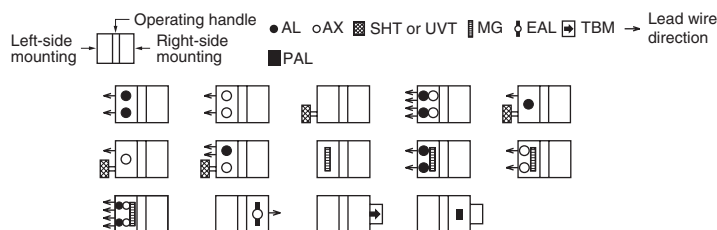
Operating Characteristics



Earth-Leakage Tripping Characteristics

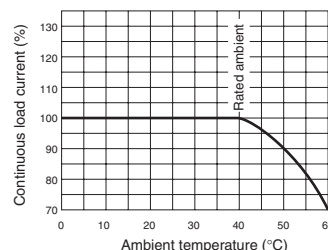


Internal Accessories



Remark: 1. Instead of EAL and TBM, pre-alarm module (PAL) can be attached.
2. Refer to page 50 and 51.

Current reducing curve



External Accessories

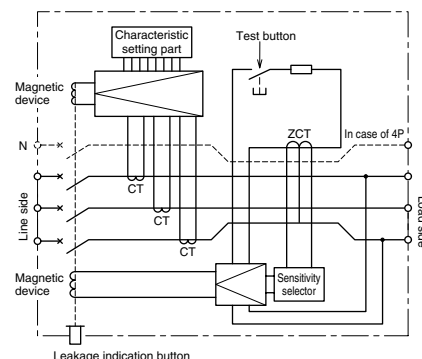
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

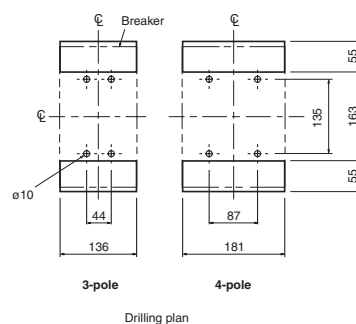
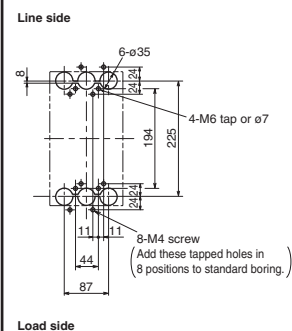
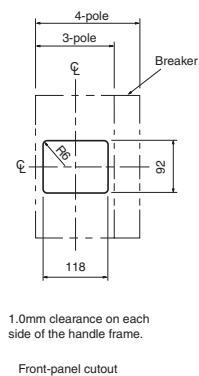
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Large (TC-L)	TCL-4SW3 (*1) (*2)	70
	V V-4S	65	Skeleton (TTC)	TTC-4SW3 (*2)	
	S S4SW	68	Rear (BTC)	BTC-4SW3 (*1) (*2)	
Mechanical interlock (MI)	MI-4SW3 (*2)	79	Handle lock device	HL HL-4SW	80
Auxiliary handle (HT)	HT-4SW	80		HL-S HLS-4SW	
			Electrical operation device	☆	71

Note (*1) This is for NV400-SEW.

(*2) The designation depends on the number of poles. Refer to the reference page.

Internal Wiring Diagram





6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

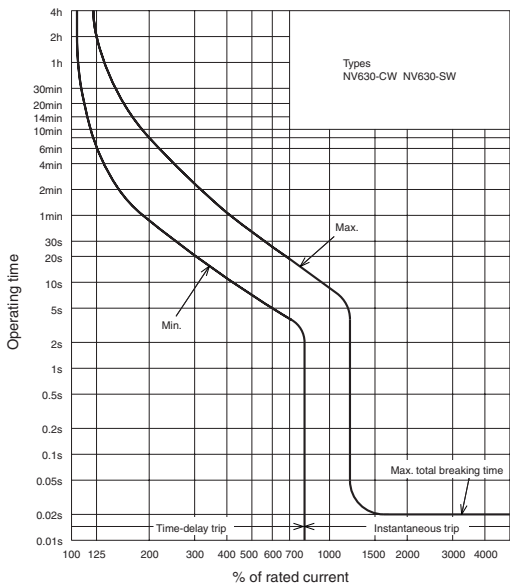
NV630-CW NV630-SW



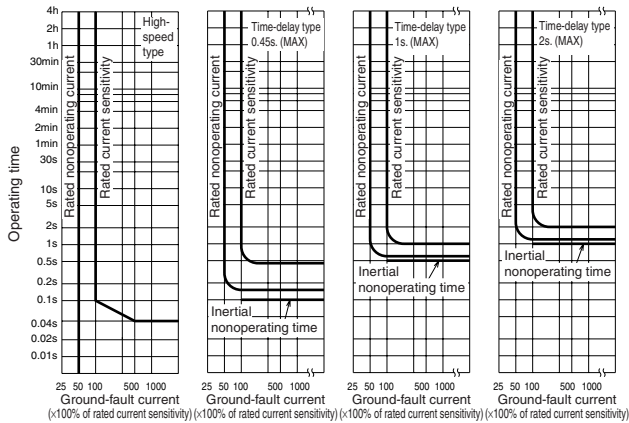
Type NV630-SW

Type name			NV630-CW	NV630-SW
Number of poles			3	
Rated operational voltage Ue (V AC)			100-440 Multi-voltage type	
Rated current In (Amp.)			500 600 630	
High-speed type	Rated current sensitivity IΔn (mA)		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 2nd. ed. (Icu/Ics)	AC	440V	36/18	42/42
		400V	36/18	50/50
		230V	50/25	85/85
Standard Attached Parts (Front connection)			Mounting screw: M6×72 (4pcs) Insulation barrier: (4pcs)	

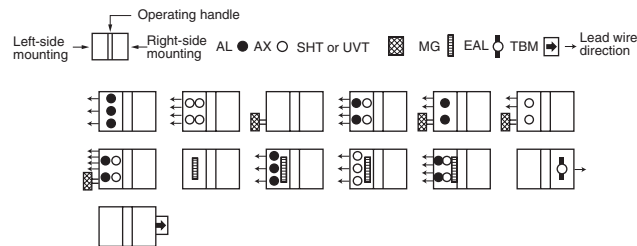
Operating Characteristics



Earth-Leakage Tripping Characteristics



Internal Accessories



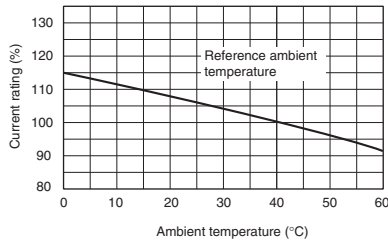
Remark: 1. Refer to page 50 and 51.

External Accessories

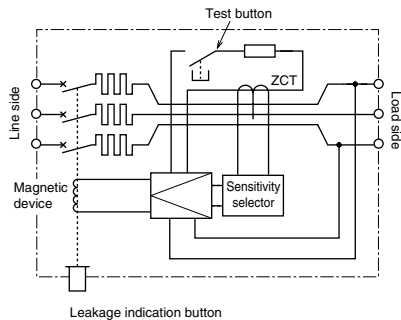
External Accessories (An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Large cover	(TC-L) TCL-4SW3	70
	V V-4S	65	Skeleton	(TTC) TTC-4SW3	
	S S4SW	68	Rear	(BTC) BTC-4SW3	
Mechanical interlock (MI)	MI-4SW3	79	Handle lock device	HL HL-4SW	80
Auxiliary handle (HT)	HT-4SW	80		HL-S HLS-4SW	
			Electrical operation device	☆	71

Ambient Compensating Curve

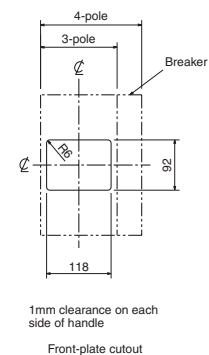
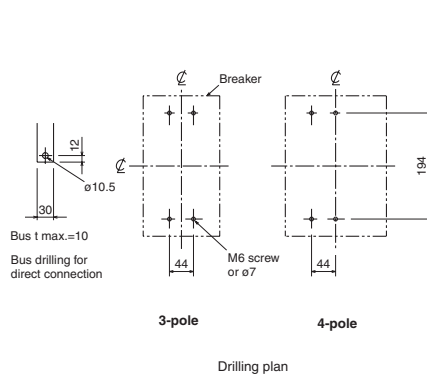
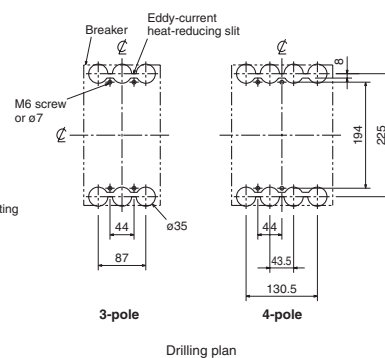


Internal Wiring Diagram



The image contains three technical drawings of circuit breakers:

- 3-pole front view:** Shows a three-phase breaker with labels: Insulating barrier (removable), Sensitivity selector, Operating-time selector (time-delay type), Leakage-indicator button, Test button, Trip button, Mounting hole, and Neutral Pole. Dimensions include 110, 140, 112, 51, 168, 185, 196, 257, 43, 16, 28, 8, 30, 102, 59, 103, 107, 155, 94.5, 44, 5, 97, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 780, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855, 860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 935, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995, 1000.
- 4-pole front view:** Shows a four-phase breaker with labels: Insulating barrier (removable), Sensitivity selector, Operating-time selector (time-delay type), Leakage-indicator button, Test button, Trip button, Mounting hole, and Neutral Pole. Dimensions include 110, 140, 112, 51, 168, 185, 196, 257, 43, 16, 28, 8, 30, 102, 59, 103, 107, 155, 94.5, 44, 5, 97, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 780, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855, 860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 935, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995, 1000.
- Side view:** Shows the profile of the breaker with dimensions: 94.5, 44, 8, 30, 102, 59, 103, 107, 155, 5, 97, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 780, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855, 860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 935, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995, 1000.

[illegible]

Line side

6-ø35

4-M6 tap or ø7

8-M4 screw

(Add these tapped holes in 8 positions to standard boring.)

87

44

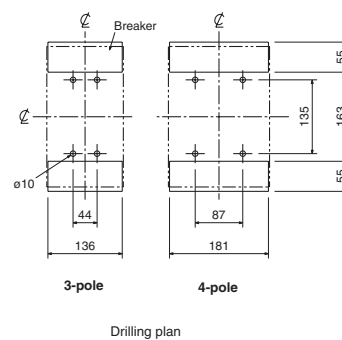
11

11

194

225

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



Note: NV630-CW and NV630-SW is only the pole of 3.

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

NV630-SEW NV630-HEW

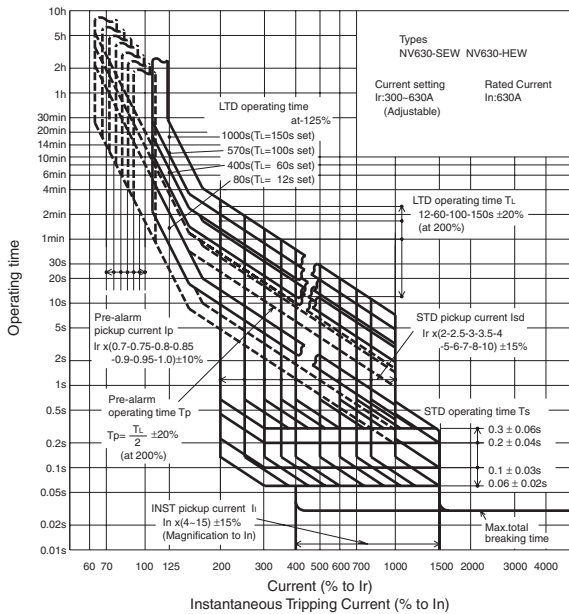


Type NV630-SEW

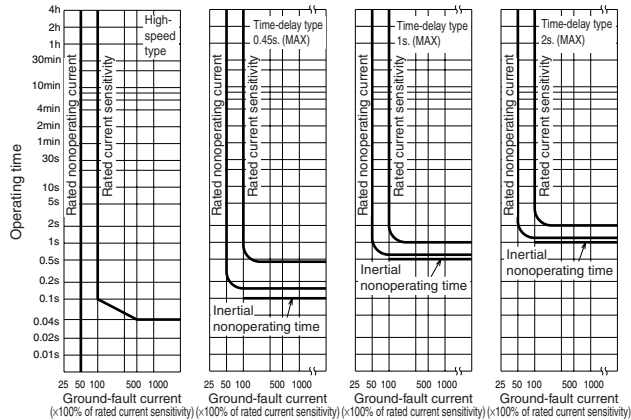
Type name			NV630-SEW		NV630-HEW	
Number of poles			3	4	3	
Rated operational voltage Ue (V AC) (*1)			100-440 Multi-voltage type			
Rated current In (Amp.)			300-630 adjustable			
High-speed type	Rated current sensitivity IΔn (mA)		100 · 200 · 500 Selectable			
	Max. operating time at 5IΔn (s)		0.04			
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 2nd. ed. (Icu/Ics)	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.

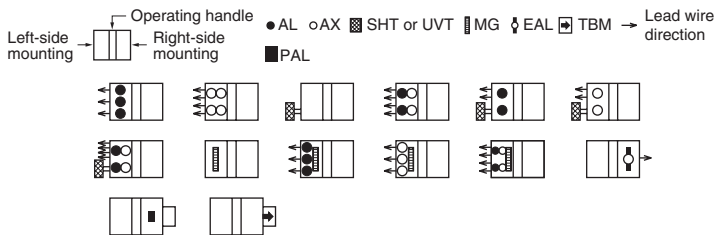
Operating Characteristics



Earth-Leakage Tripping Characteristics



Internal Accessories



Remark: 1. Instead of EAL and TBM, pre-alarm module (PAL) can be attached.
2. Refer to page 50 and 51.

External Accessories

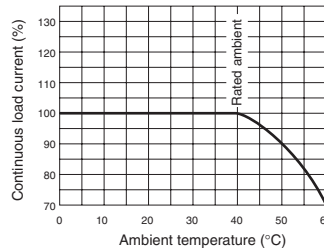
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Terminal cover	Large (TC-L)	70
	V V-4S	65		Skeleton (TTC)	
	S S4SW	68		Rear (BTC)	
Mechanical interlock (MI)	MI-4SW3 (#1)	79	Handle lock device	HL	80
Auxiliary handle (HT)	HT-4SW	80		HL-S	
			Electrical operation device	☆	71

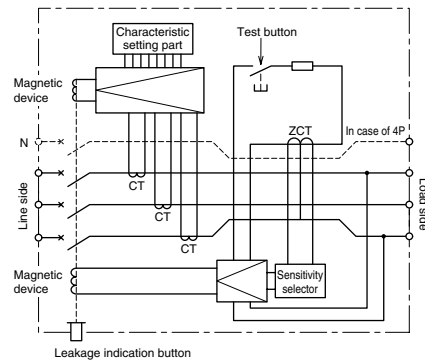
Note (#1) This is for NV630-SEW

(#2) The designation depends on the number of poles. Refer to the reference page.

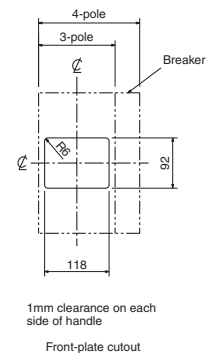
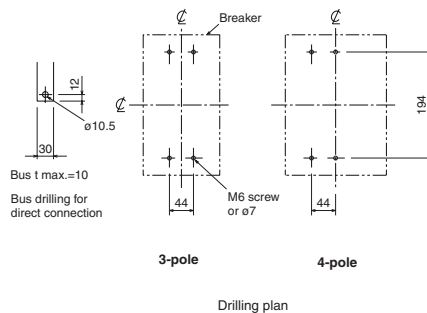
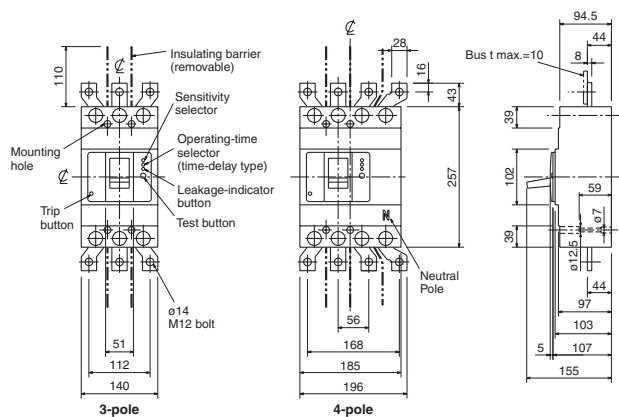
Current reducing curve



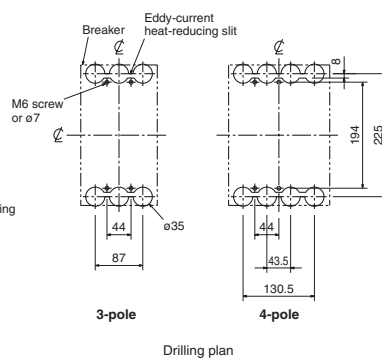
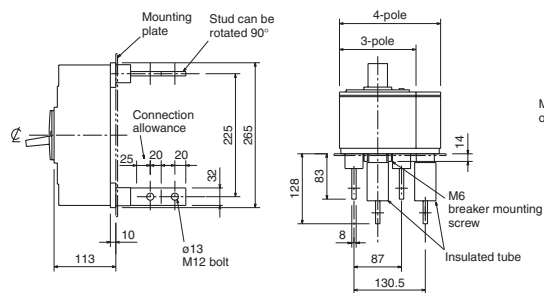
Internal Wiring Diagram



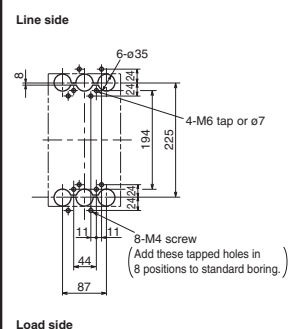
Front connection



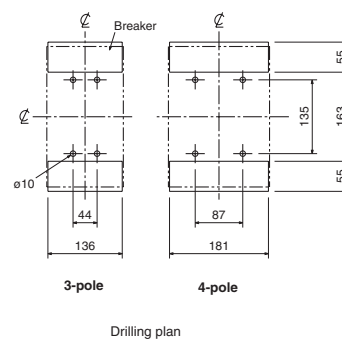
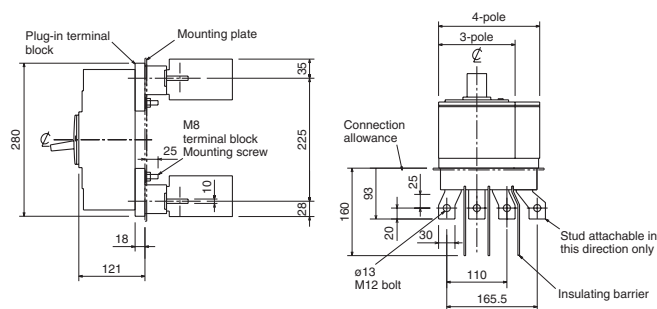
Rear connection



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



Plug-in



Note: NV630-HEW is only the pole of 3.

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers

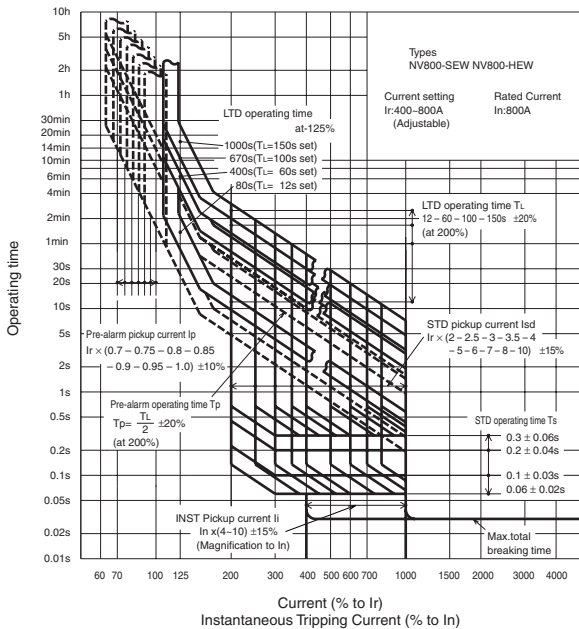
NV800-SEW NV800-HEW



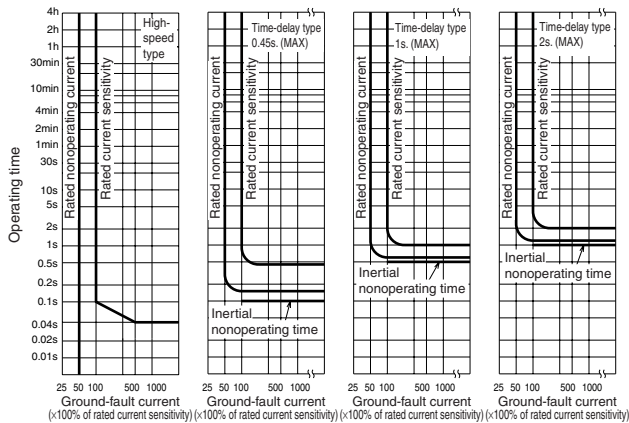
Type NV800-SEW

Type name		NV800-SEW		NV800-HEW	
Number of poles		3			
Rated operational voltage Ue (V AC)		100-440 Multi-voltage type			
Rated current In (Amp.)		400-800 adjustable			
High-speed type	Rated current sensitivity IΔn (mA)	(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 2nd. ed. (Icu/Ics)	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)			

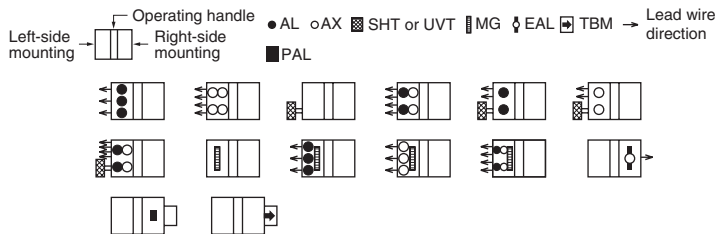
Operating Characteristics



Earth-Leakage Tripping Characteristics



Internal Accessories



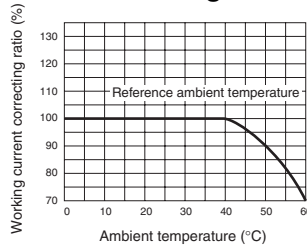
Remark: 1. Instead of EAL and TBM, pre-alarm module (PAL) or trip indicator (TI) can be attached.
2. Refer to page 50 and 51.

External Accessories

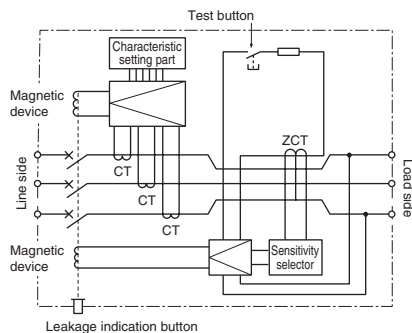
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories		Type name	Reference page	Accessories		Type name	Reference page
Operating handle	F	F-8S	62	Terminal cover	Large (TC-L)	TCL-8SW3	70
	V	V-8S	65		Skeleton (TTC)	TTC-8SW3	
	S	S4SW	68		Rear (BTC)	BTC-8SW3	
Mechanical interlock (MI)		MI-8SW3	79	Handle lock device	HL HL-S	HL-4SW HLS-8SW	80
Auxiliary handle (HT)		HT-4SW	80	Electrical operation device		☆	71

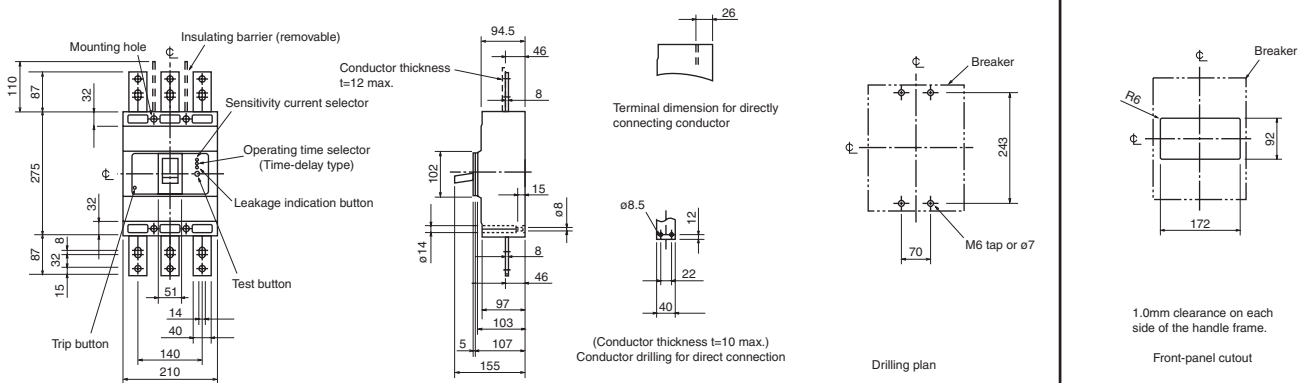
Current reducing curve



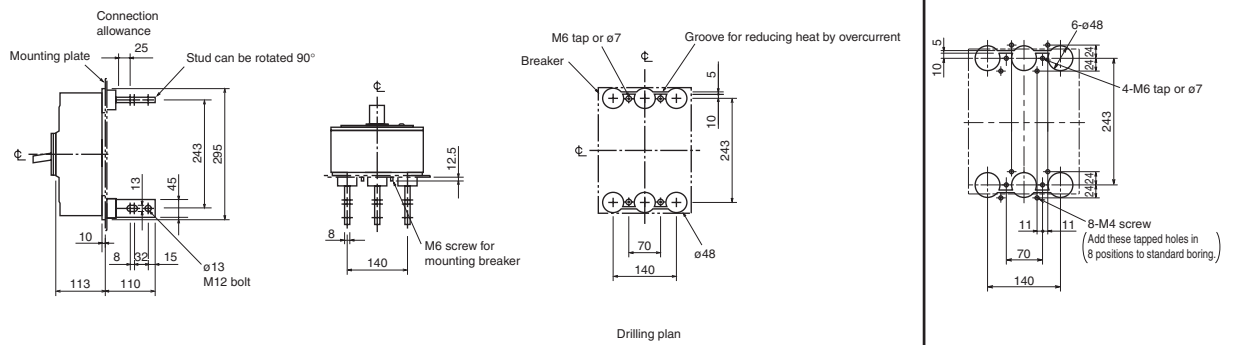
Internal Wiring Diagram



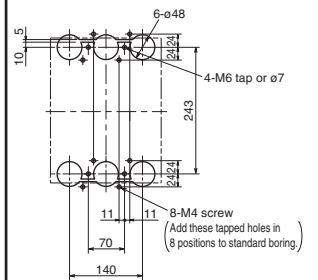
Front connection



Rear connection

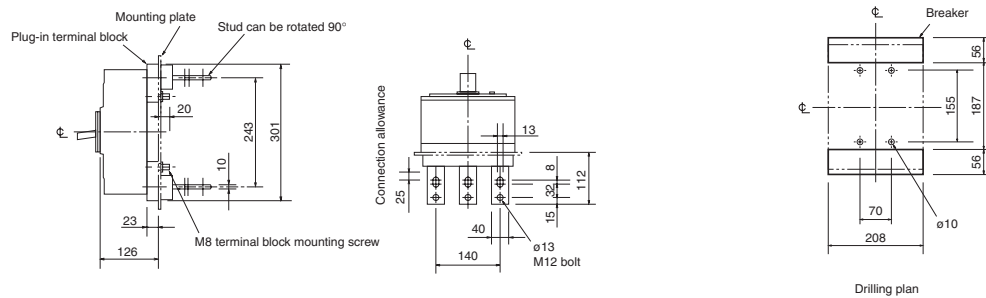


Boring dimensions for rear connection type barriers (3-pole)



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

Plug-in



6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers for CE Marking

NV32-SW
NV63-SW

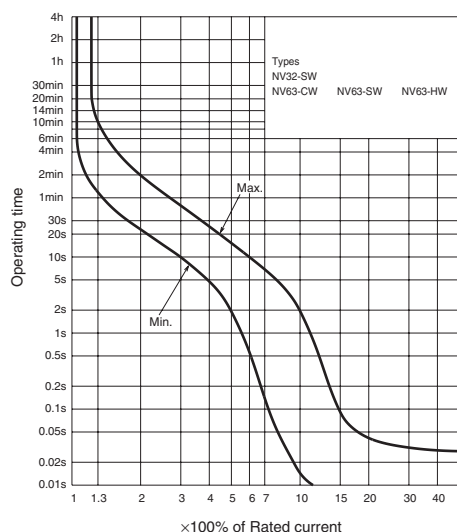
NV63-CW
NV63-HW



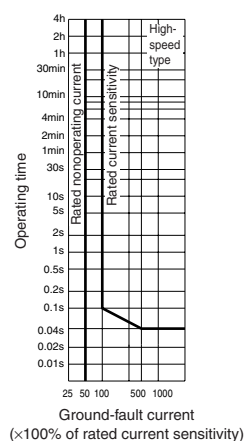
Type NV63-SW

Type name		NV32-SW	NV63-CW	NV63-SW	NV63-HW
Rated current I_n (Amp.)		(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	3	3	3
Rated operational voltage U_e (V AC)		100–440 Multi-voltage type	100–440 Multi-voltage type	100–440 Multi-voltage type	100–440 Multi-voltage type
High-speed type	Rated current sensitivity $I_{\Delta n}$ (mA)	30, 100•200•500 Selectable	30, 100•200•500 Selectable	30, 100•200•500 Selectable	30, 100•200•500 Selectable
	Max. operating time at $5I_{\Delta n}$ (s)	0.04	0.04	0.04	0.04
Earth-leakage indication system		Button	Button	Button	Button
Rated short-circuit breaking capacity (kA) IEC 60947-2 (Icu/Ics) EN 60947-2	AC440V	5/2	2.5/1	7.5/4	10/5
	AC400V	5/2	5/2	7.5/4	10/5
	AC230V	10/5	7.5/4	15/8	25/13
Standard Attached Parts (Front connection)		Mounting screw: M4×0.7×55 (2pcs) Insulation barrier: (3P: 2pcs) excluding models of NV63-CW			

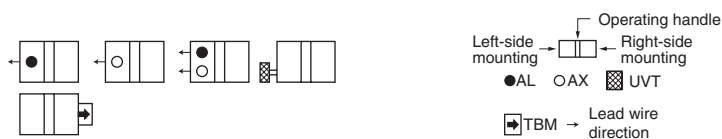
Operating Characteristics



Earth-Leakage Tripping Characteristics

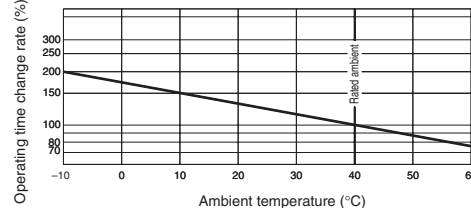


Internal Accessories



Remark: 1. Refer to page 52.

Temperature Characteristics

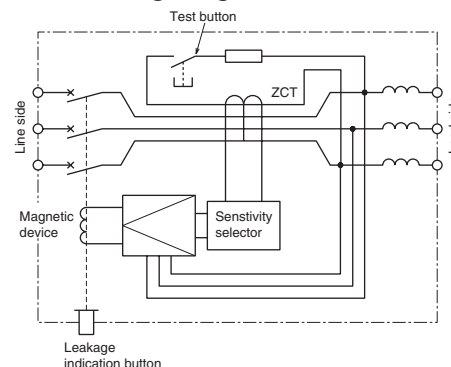


External Accessories

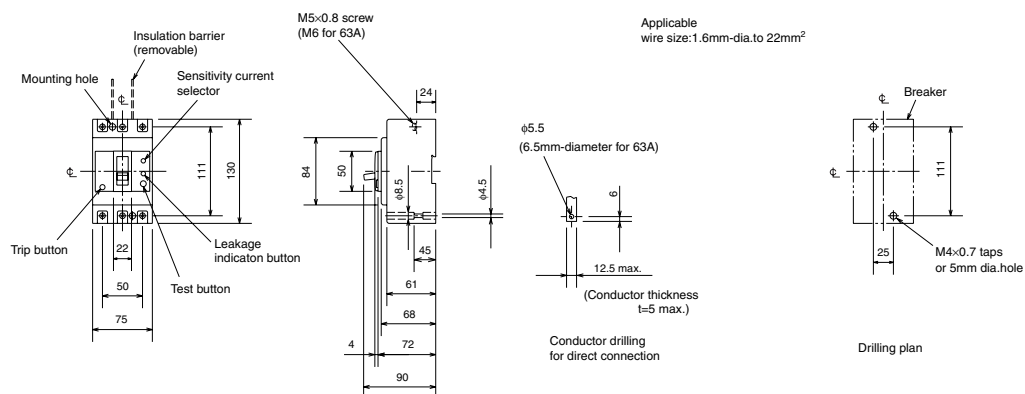
Accessories		Type name	Reference page	Accessories		Type name	Reference page	
Operating handle	F	F-05S	61	Mechanical interlock	MI	MI-05SW3 (*1)	79	
	V	V-05S	64					
	S	S05SW	68	Terminal cover	Small	TC-S	TCS-05SW3W	70
Handle lock device	LC	LC-05SW	80		Large	TC-L	TCL-05SW3W	
	(※1)HLF	HLF-05SW			Skeleton	TTC	TTC-05SW3	
	HL	HLN-05SW			Rear	BTC	BTC-05SW3W	
	HL-S	HLS-05SW			Plug-in	PTC	PTC-05SW3W	
				IEC 35mm rail mounting adapters		DIN-05SW	80	

Note (*1) HLF and HLS types are used for OFF-lock, and HLN types for ON-lock.

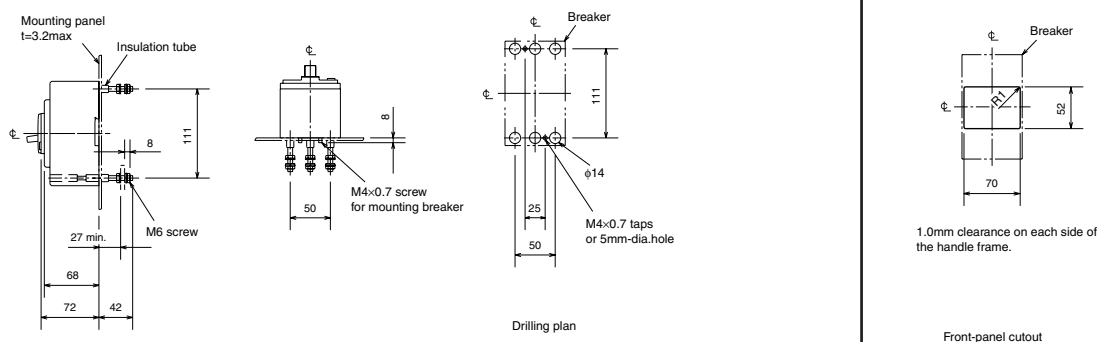
Internal Wiring Diagram



Front connection



Rear connection



6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers for CE Marking

NV125-CW NV125-SW
NV125-HW

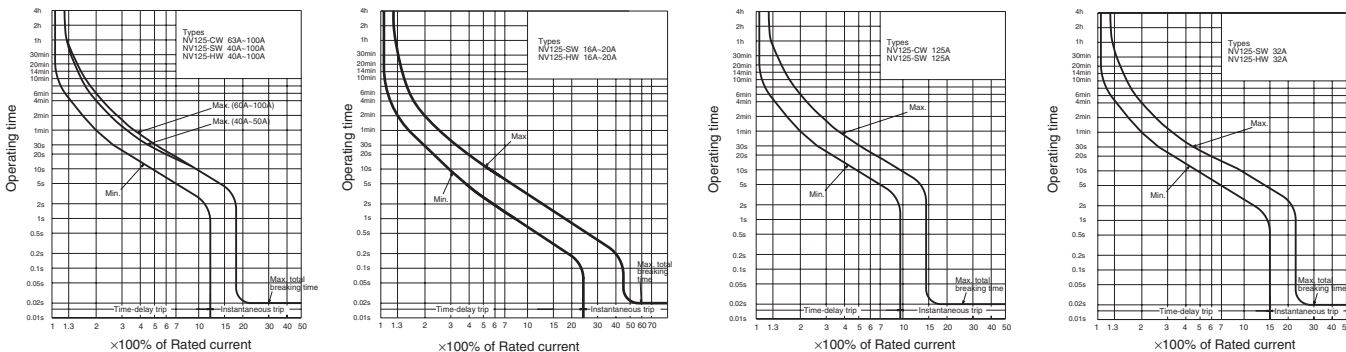


Type NV125-SW

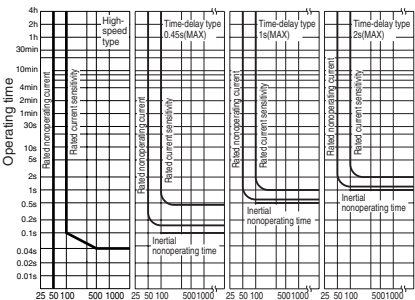
Type name		NV125-CW	NV125-SW	NV125-HW
Rated current In (Amp.) (*1)		63 (75) 80 100 125	(15) 16 20 (30) 32 40 50 (60) 63 (75) 80 100 (125 *2)	(15) 16 20 (30) 32 40 50 (60) 63 (75) 80 100
Number of poles		3	3 4	3 4
Rated operational voltage Ue (V AC) (*3)		100-440 Multi-voltage type	100-440 200-440 Multi-voltage type Multi-voltage type	100-440 200-440 Multi-voltage type Multi-voltage type
High-speed type	Rated current sensitivity IΔn (mA)	30,100•200•500 Selectable	30,100•200•500 Selectable	30,100•200•500 Selectable
	Max. operating time at 5IΔn (s)	0.04	0.04	0.04
Time-delay type	Rated current sensitivity IΔn (mA)	(100•200•500) Selectable	(100•200•500) Selectable	(100•200•500) Selectable
	Max. operating time at 5IΔn (s)	(0.45•1.0•2.0) Selectable	(0.45•1.0•2.0) Selectable	(0.45•1.0•2.0) Selectable
	Inertial non-operating time at 2IΔn (s)	(0.1•0.5•1.0)	(0.1•0.5•1.0)	(0.1•0.5•1.0)
Earth-leakage indication system		Button	Button	Button
Rated short-circuit breaking capacity (kA) IEC 60947-2 (Icu/Ics) EN 60947-2	AC440V	10/5	25/13	50/25
	AC400V	10/5	30/15	50/25
	AC230V	30/15	50/25	100/50
Standard Attached Parts (Front connection)		Mounting screw: M4×0.7×55 (3P: 2pcs, 4P: 4pcs) Insulation barrier: (3P: 2pcs, 4P: 3pcs) excluding models of NV125-CW		

Note (*1) The time-delayed types will be produced when they have the current specifications of 20A or more.
(*2) 3P only
(*3) Rated operational voltage of time-delay type is for 200-440V.

Operating Characteristics

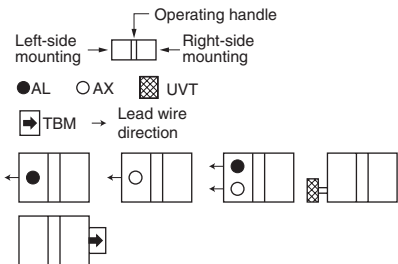


Earth-Leakage Tripping Characteristics



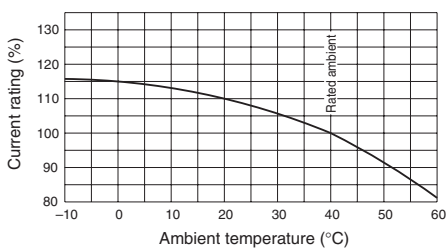
Ground-fault current (% of rated current sensitivity)

Internal Accessories



Remark: 1. refer to page 52.

Temperature Characteristics

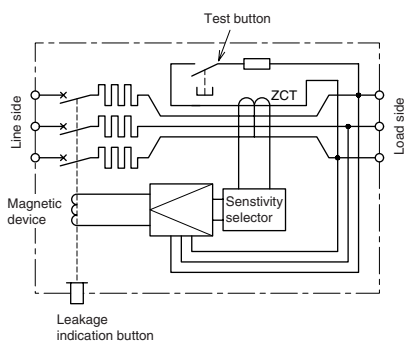


External Accessories

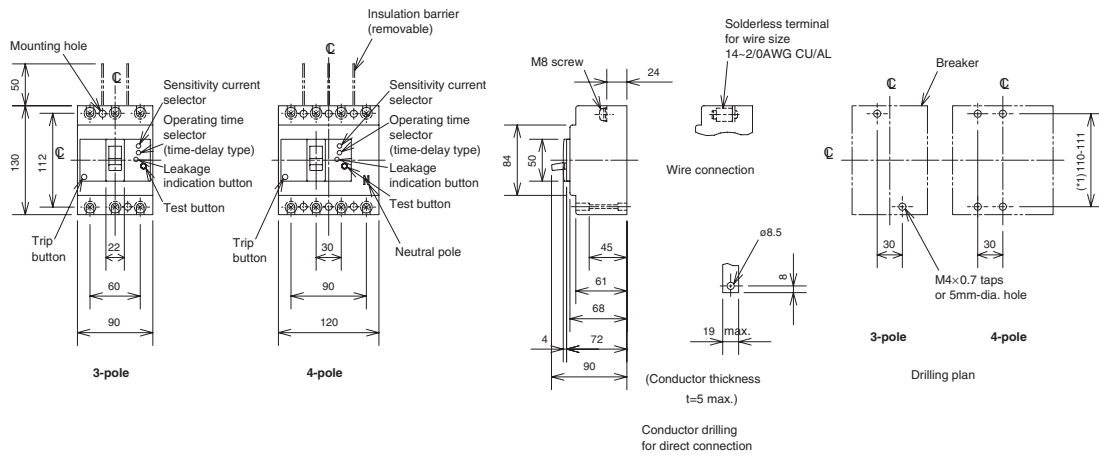
Accessories		Type name	Reference page	Accessories		Type name	Reference page	
Operating handle	F	F-1S	61	Mechanical interlock	MI	MI-05SW3 (*3)	79	
	V	V-1S	64					
	S	S1SW	68					
Handle lock device	LC	LC-1SW	80	Terminal cover	Small	TC-S	TCS-1SW3W (*3)	70
	(*1) HL	HLF-1SW			Large	TC-L	TCL-1SW3W (*3)	
		HLN-1SW			Skeleton	TTC	TTC-1SW3 (*3)	
		HL-S			HLS-1SW	Rear	BTC	
						Plug-in	PTC	
				IEC 35mm rail mounting adapters		DIN-1SW (*3)	80	
				Electrical operation device		MDS-NV1SWE (*2)	71	

Note (*1) HLF and HLS types are used for OFF-lock, and HLN types for ON-lock.
(*2) Specify the working voltage.
(*3) The designation depends on the number of poles. Refer to the reference page.

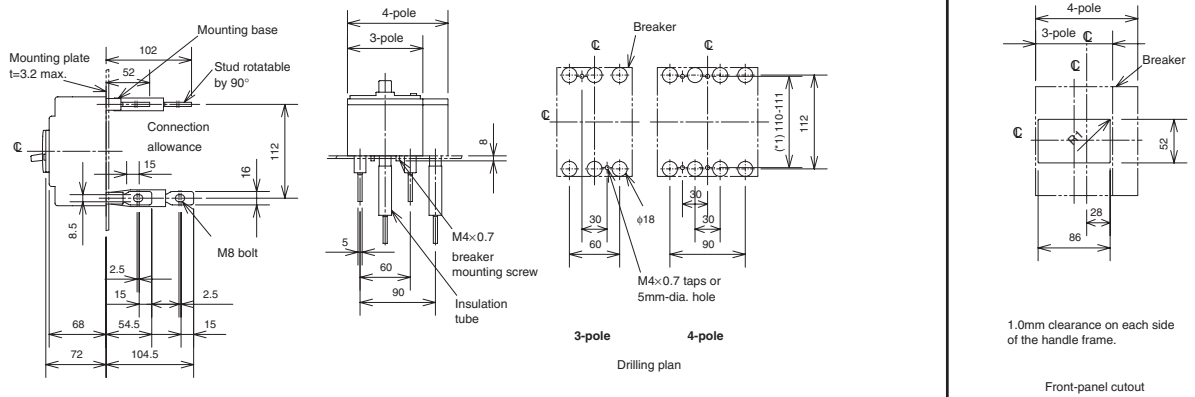
Internal Wiring Diagram



Front connection



Rear connection



Note (*1) It can respond to the attachment size of 110 and 111 both sides.

Remark: 1. NV125-CW is available in 3-pole only.

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers for CE Marking

NV250-CW NV250-SW NV250-HW

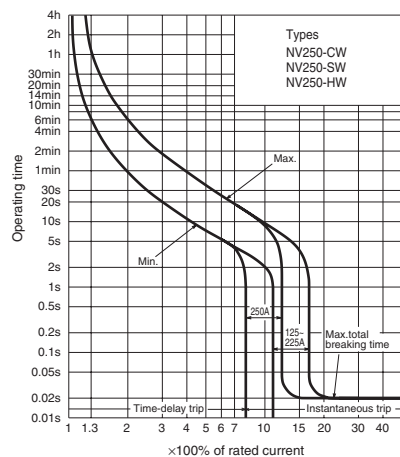


Type NV250-SW

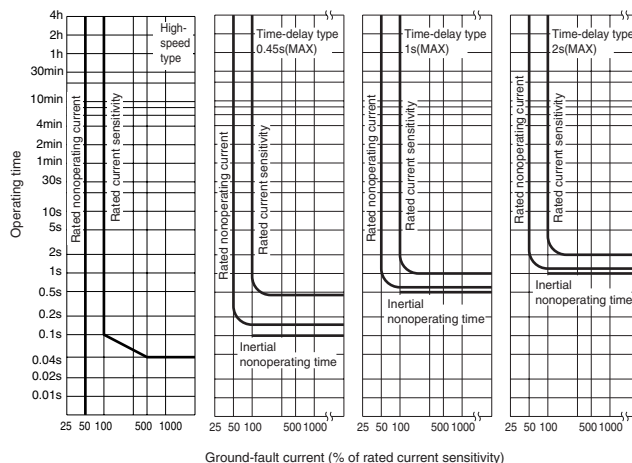
Type name		NV250-CW	NV250-SW	NV250-HW
Rated current I_n (Amp.)		125 150 175 200 225 250	125 150 175 200 225 250	125 150 175 200 225
Number of poles		3	3	4
Rated operational voltage U_e (V AC) (*1)		100-440 Multi-voltage type	100-440 Multi-voltage type	100-440 Multi-voltage type
High-speed type	Rated current sensitivity $I_{\Delta n}$ (mA)	30, 100•200•500 Selectable	30, 100•200•500 Selectable	30, 100•200•500 Selectable
	Max. operating time at $5I_{\Delta n}$ (s)	0.04	0.04	0.04
Time-delay type	Rated current sensitivity $I_{\Delta n}$ (mA)	(100•200•500) Selectable	(100•200•500) Selectable	(100•200•500) Selectable
	Max. operating time at $5I_{\Delta n}$ (s)	(0.45•1.0•2.0) Selectable	(0.45•1.0•2.0) Selectable	(0.45•1.0•2.0) Selectable
	Inertial non-operating time at $2I_{\Delta n}$ (s)	(0.1•0.5•1.0)	(0.1•0.5•1.0)	(0.1•0.5•1.0)
Earth-leakage indication system		Button	Button	Button
Rated short-circuit breaking capacity (kA) IEC 60947-2 (Icu/Ics) EN 60947-2	AC440V	15/8	25/13	50/13
	AC400V	18/9	30/15	50/13
	AC230V	35/18	50/25	100/25
Standard Attached Parts (Front connection)		Mounting screw: M4×0.7×55 (3P: 2pcs, 4P: 4pcs) Insulation barrier: (3P: 4pcs, 4P: 6pcs)		

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

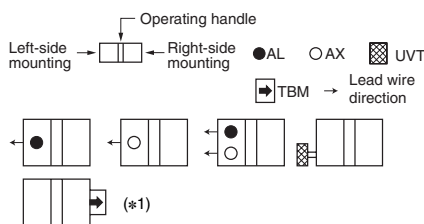
Operating Characteristics



Earth-Leakage Tripping Characteristics

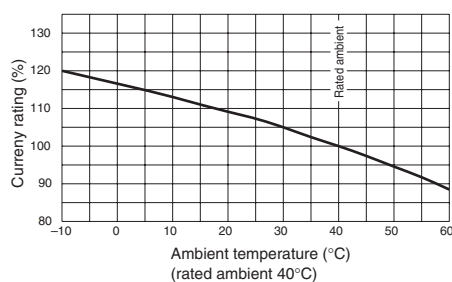


Internal Accessories



Note (*1) Refer to page 52.

Temperature Characteristics

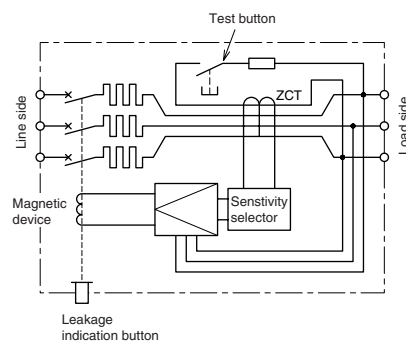


External Accessories

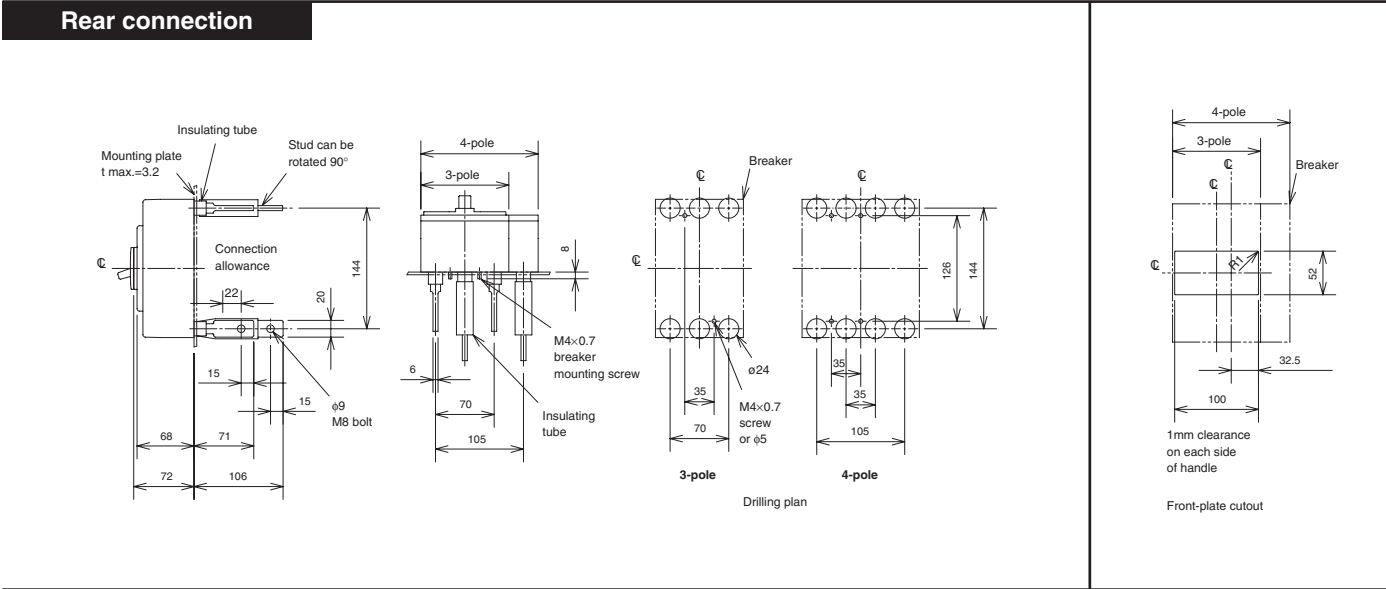
Accessories		Type name	Reference page	Accessories		Type name	Reference page				
Operating handle	F	F-2S	61	Terminal cover	Mechanical interlock	MI	MI-05SW3 (*2)	79			
	V	V-2S	64		MI	TCS-2SW3W (*2)	TCL-2SW3W (*2)	TTC-2SW3W (*2)			
	S	S2SW	68						Small	TC-S	70
Handle lock device	LC	LC-2SW	80						Large	TC-L	BTC-2SW3W (*2)
	(*)1 HL	HLF-2SW							Skeleton	TTC	
	HLN-2SW	Rear		BTC	PTC						
HL-S	HLS-2SW	Plug-in									
					Electrical operation device	MDS-NV2SWE (*3)	71				

Note (*1) HLF types are used for OFF-lock, and HLN types for ON-lock.
(*2) The designation depends on the number of poles. Refer to the reference page.
(*3) Specify the working voltage.

Internal Wiring Diagram



Front connection



Remark: 1. NV250-CW are available in 3-pole only.

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers for CE Marking

NV125-RW

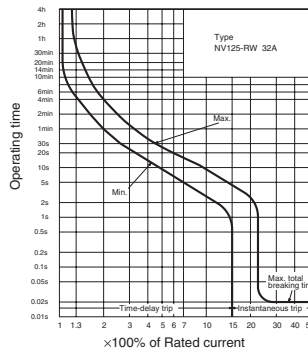
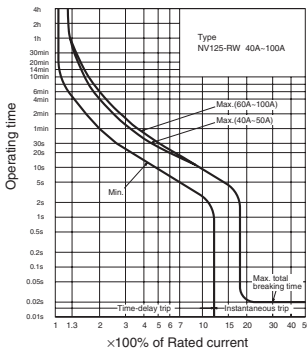
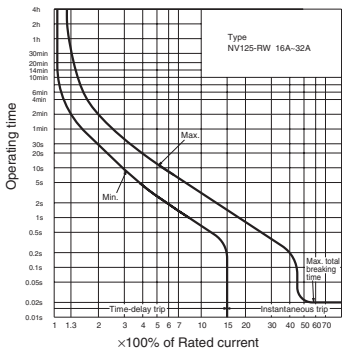


Type NV125-RW

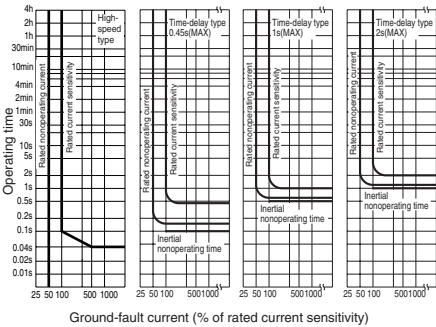
Type name		NV125-RW
Rated current In (Amp.)		(15) 16 20 (30) 32 40 50 (60) 63 (75) 80 100
Number of poles		3
Rated operational voltage Ue (V AC) (*2)		100-440 Multi-voltage type
High-speed type	Rated current sensitivity IΔn (mA)	(30) 100•200•500 Selectable
	Max. operating time at 5IΔn (s)	0.04
Time-delay type	Rated current sensitivity IΔn (mA)	(100•200•500) Selectable
	Max. operating time at 5IΔn (s)	(0.45•1.0•2.0) Selectable
	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	AC440V	125/125
	AC400V	125/125
	AC230V	125/125
Standard Attached Parts (Front connection)		Mounting screw : M4×0.7×73 (4pcs) Insulation barrier : (3P:4pcs, 4P:6pcs)

Note (*1) The Time-delayed types will be produced when they have the current specifications of 20A or more.
Note (*2) Rated operational voltage of time-delay type is for 200-440V.

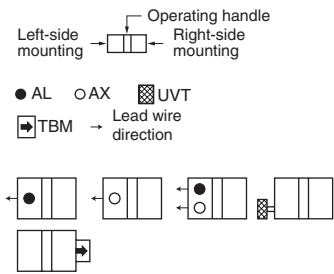
Operating Characteristics



Earth-Leakage Tripping Characteristics

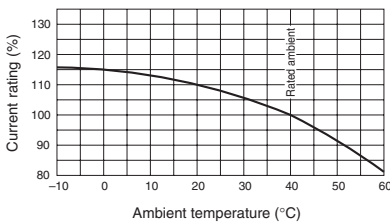


Internal Accessories



Remark: 1. Refer to page 52.

Temperature Characteristics

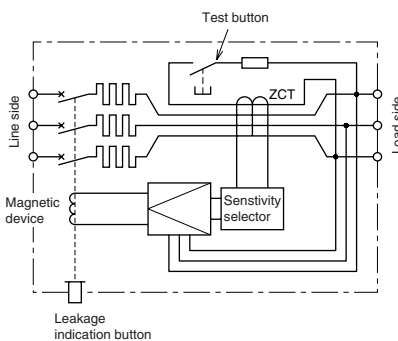


External Accessories

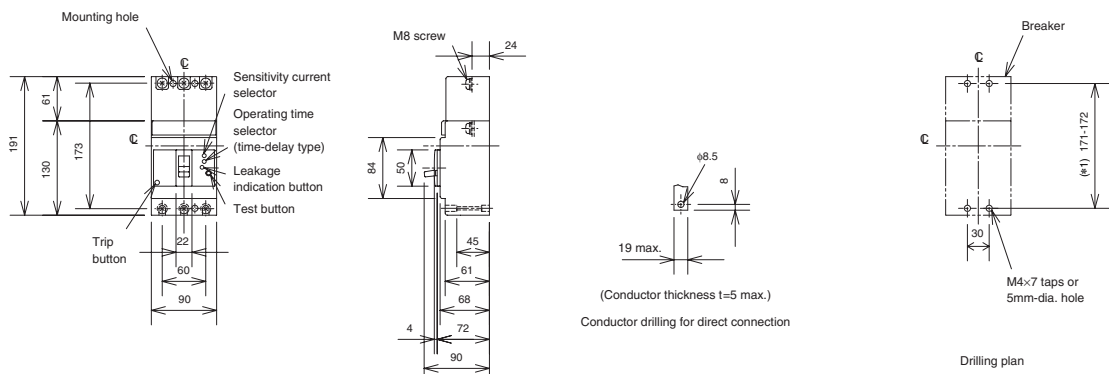
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-1U	61	Terminal cover	Small TC-S	70
	V V-1U	64		Large TC-L	
	S S1SW	68		Skeleton TTC	
Mechanical interlock	MI MI-05SW3 (*1)	79		Rear BTC	
Electrical operation device	—	—		Plug-in PTC	
			Handle lock device	LC LC-1SW	80
				(*2) HLF HLF-1SW	
				HLN HLN-1SW	
				HL-S HLS-1SW	

Note (*1) The designation depends on the number of poles. Refer to the reference page.
(*2) HLF and HLS types are used for OFF-lock, and HLN types for ON-lock.

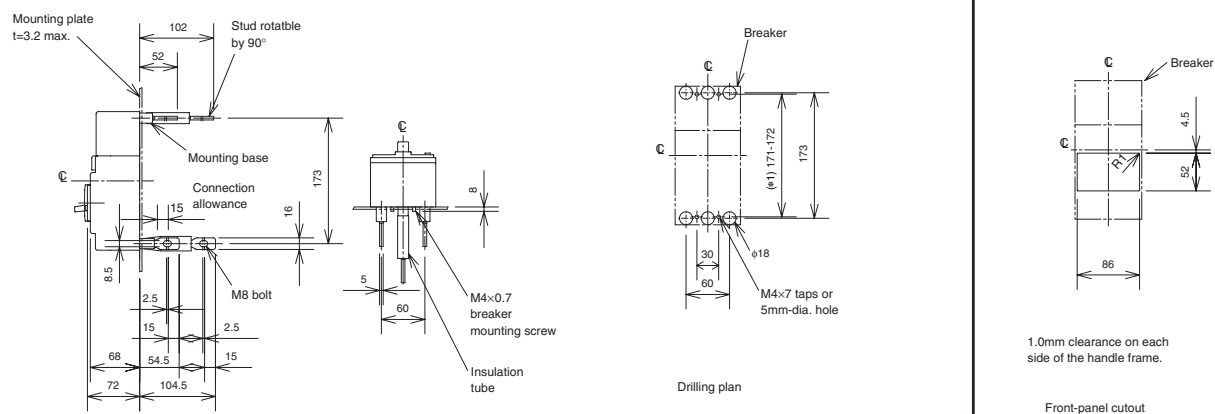
Internal Wiring Diagram



Front connection



Rear connection



Note (*1) It can respond to the attachment size of 171 and 172 both sides.

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers for CE Marking

NV250-RW

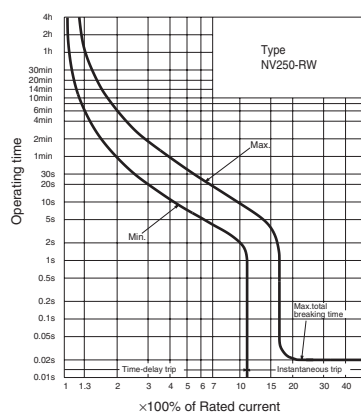


Type NV250-RW

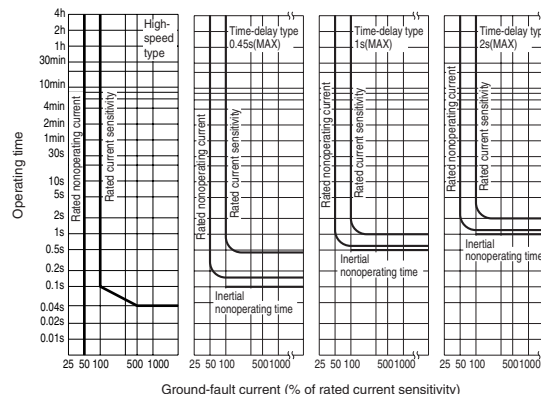
Type name	NV250-RW	
Rated current In (Amp.)	125 150 175 200 225	
Number of poles	3	
Rated operational voltage Ue (V AC) (*1)	100-440 Multi-voltage type	
High-speed type	Rated current sensitivity IΔn (mA)	(30) 100•200•500 Selectable
	Max. operating time at 5IΔn (s)	0.04
Time-delay type	Rated current sensitivity IΔn (mA)	(100•200•500) Selectable
	Max. operating time at 5IΔn (s)	(0.45•1.0•2.0) Selectable
	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	AC440V	125/125
	AC400V	125/125
	AC230V	125/125
Standard Attached Parts (Front connection)		Mounting screw : M4 × 0.7 × 55 (2pcs), M4 × 0.7 × 73 (2pcs) Insulation barrier : (4pcs)

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

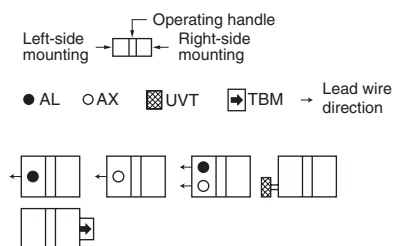
Operating Characteristics



Earth-Leakage Tripping Characteristics

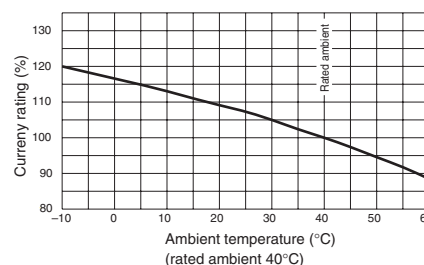


Internal Accessories



Remark: 1. Refer to page 52.

Ambient Compensating Curve

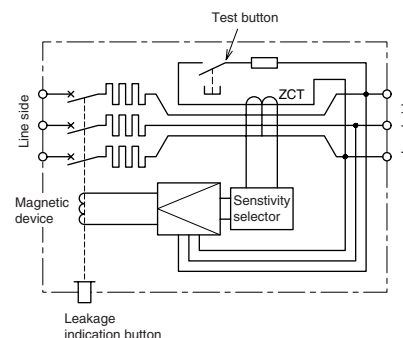


External Accessories

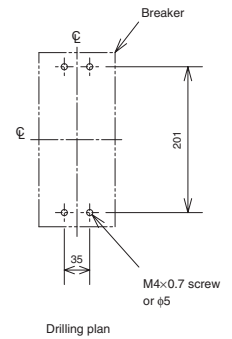
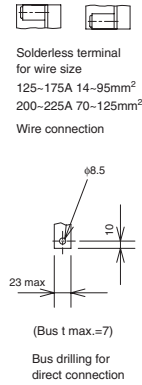
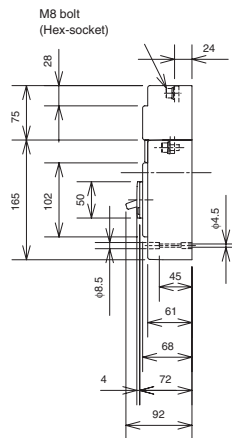
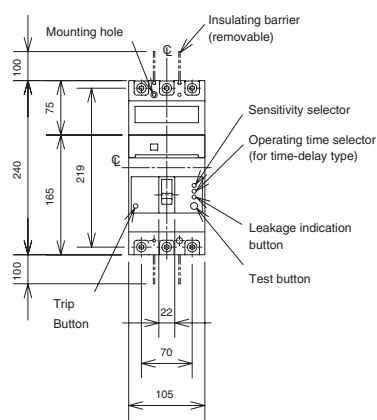
Accessories		Type name	Reference page	Accessories		Type name	Reference page	
Operating handle	F	F-2U	61	Terminal cover	Mechanical interlock	MI	MI-05SW3 (*1)	79
	V	V-2U	64					
	S	S2SW	68					
Handle lock device	LC	LC-2SW	80		Small	TC-S	TCS-2SW3W (*1)	70
					Large	TC-L	TCL-2SW3W (*1)	
	(*1) HL	HLF-2SW			Skeleton	TTC	TTC-2SW3 (*1)	
	HL	HLN-2SW		Rear	BTC	BTC-2SW3W (*1)		
HL-S	HLS-2SW	Plug-in	PTC	PTC-2SW3W (*1)				
				Electrical operation device		—	—	

Note (*1) The designation depends on the number of poles. Refer to the reference page.
(*2) HLF types are used for OFF-lock, and HLN types for ON-lock.

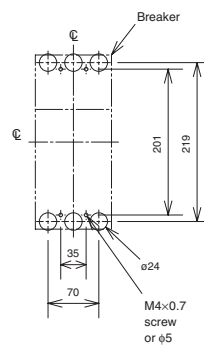
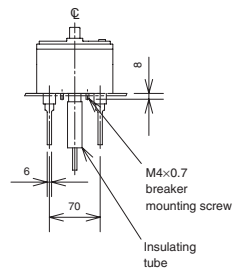
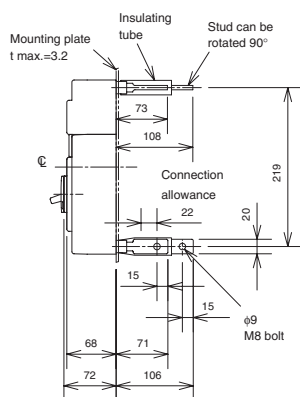
Internal Wiring Diagram



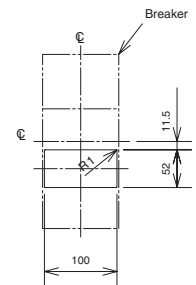
Front connection



Rear connection



Drilling plan



1mm clearance on each side of handle

Front-plate cutout

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers for CE Marking

NV400-CW NV400-SW

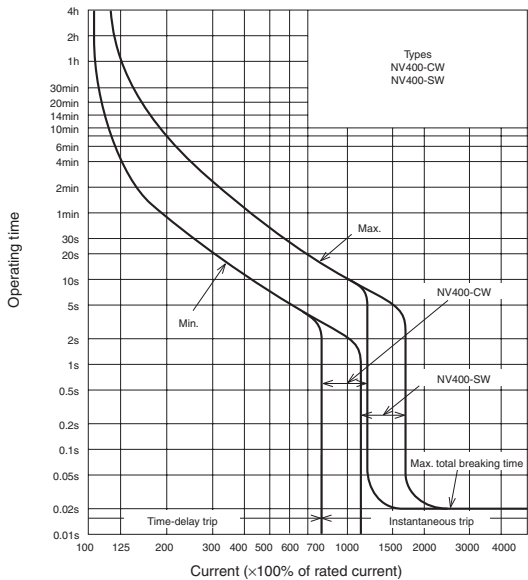


Type NV400-SW

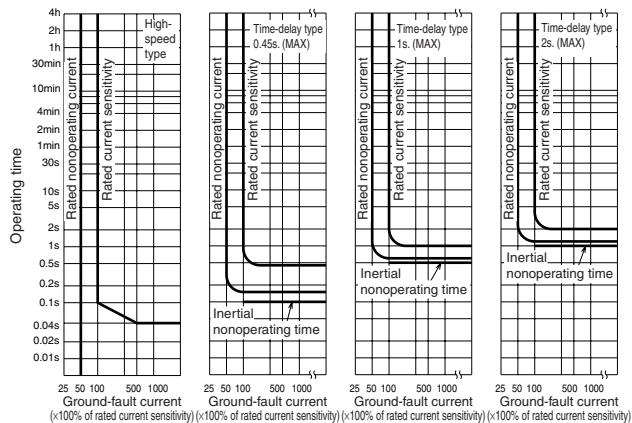
Type name			NV400-CW	NV400-SW
Number of poles			3	
Rated operational voltage Ue (V AC) (*1)			100-440 Multi-voltage type	
Rated current In (Amp.)			250 300 350 400	
High-speed type	Rated current sensitivity IΔn (mA)		(30) 100 · 200 · 500 Selectable	
	Max. operating time at 5IΔn (s)		0.04	
Time-delay 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.

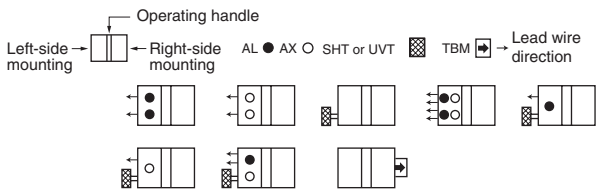
Operating Characteristics



Earth-Leakage Tripping Characteristics



Internal Accessories



Remark: 1. Refer to page 53.

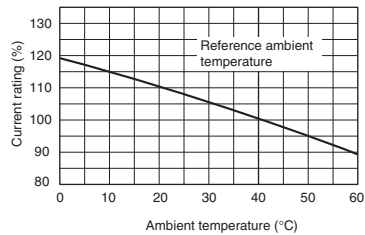
External Accessories

(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

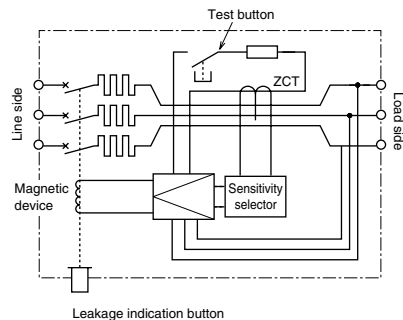
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Terminal cover	Large (TC-L)	70
	V V-4S	65	Skeleton (TTC)	TTC-4SW3	
	S S4CW, S4SW	68	Rear (BTC)	BTC-4SW3	
Mechanical interlock (MI)	MI-4SW3 (*1)	79	Handle lock device	HL HL-4CW, HL-4SW	80
Auxiliary handle (HT)	HT-4CW, HT-4SW	80	Electrical operation device	☆	71

Note (*1) The designation depends on the number of poles. Refer to the reference page.

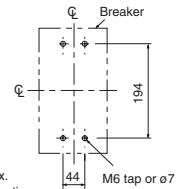
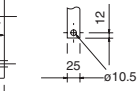
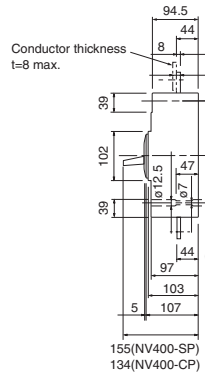
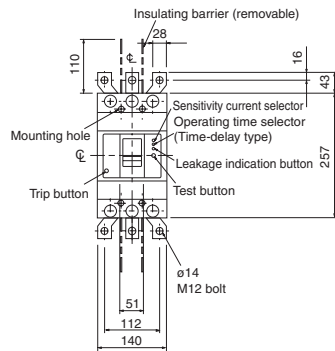
Ambient Compensating Curve



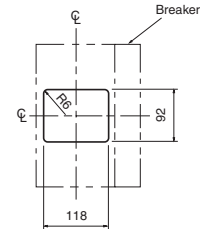
Internal Wiring Diagram



Front connection



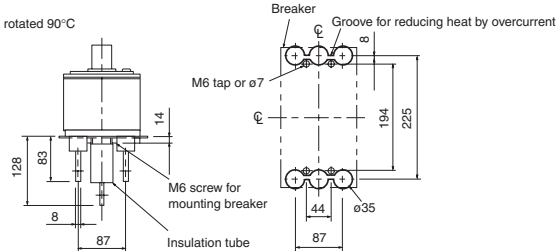
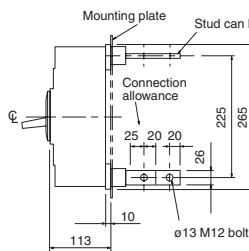
Drilling plan



1.0mm clearance on each side of the handle frame.

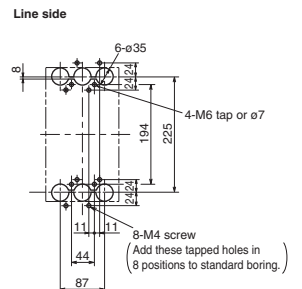
Front-panel cutout

Rear connection



Drilling plan

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



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

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers for CE Marking

NV400-SEW NV400-HEW NV400-REW

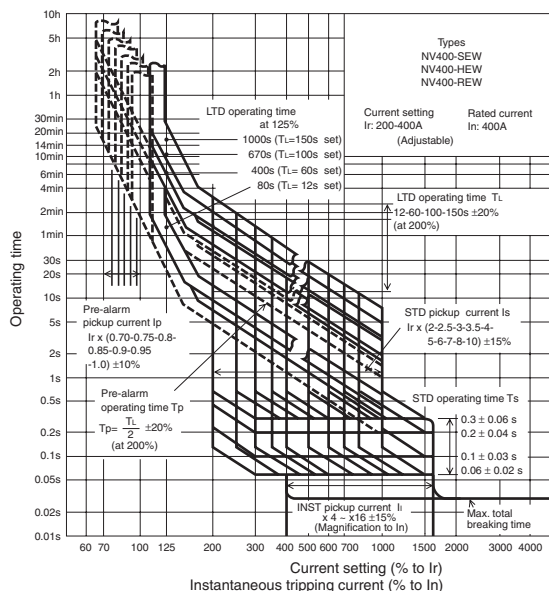


Type NV400-SEW

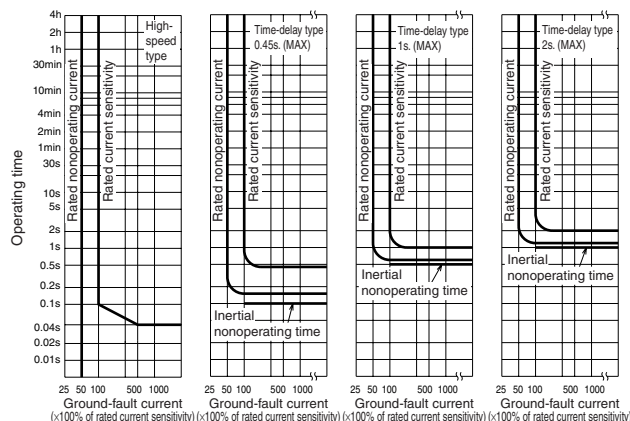
Type name			NV400-SEW		NV400-HEW		NV400-REW	
Number of poles			3	4	3	4	3	
Rated operational voltage Ue (V AC) (*1)			100-440 Multi-voltage type					
Rated current In (Amp.)			200-400 adjustable					
High-speed type	Rated current sensitivity IΔn (mA)		(30) 100 · 200 · 500 Selectable					
	Max. operating 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: M6×72 (4pcs) Insulation barrier: (3P: 4pcs, 4P: 6pcs)					

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

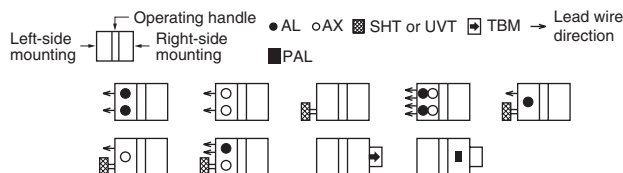
Operating Characteristics



Earth-Leakage Tripping Characteristics



Internal Accessories



Remark 1. Instead of TBM, pre-alarm module (PAL) can be attached.
2. Refer to page 53.

External Accessories

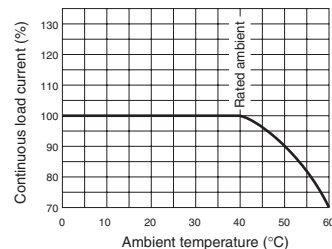
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Large (TC-L)	TCL-4SW3 (*1) (*2)	70
	V V-4S	65	Skeleton (TTC)	TTC-4SW3 (*2)	
	S S4SW	68	Rear (BTC)	BTC-4SW3 (*1) (*2)	
Mechanical interlock (MI)	MI-4SW3 (*2)	79	Handle lock device	HL HL-4SW	80
Auxiliary handle (HT)	HT-4SW	80		HL-S HLS-4SW	
			Electrical operation device	☆	71

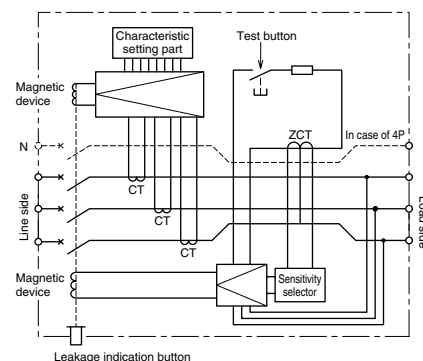
Note (*1) This is for NV400-SEW.

(*2) The designation depends on the number of poles. Refer to the reference page.

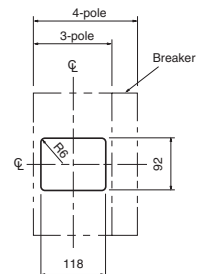
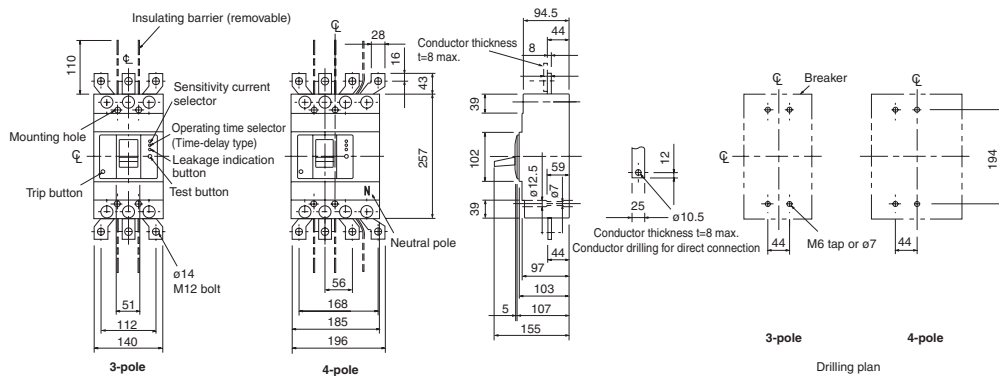
Current reducing curve



Internal Wiring Diagram



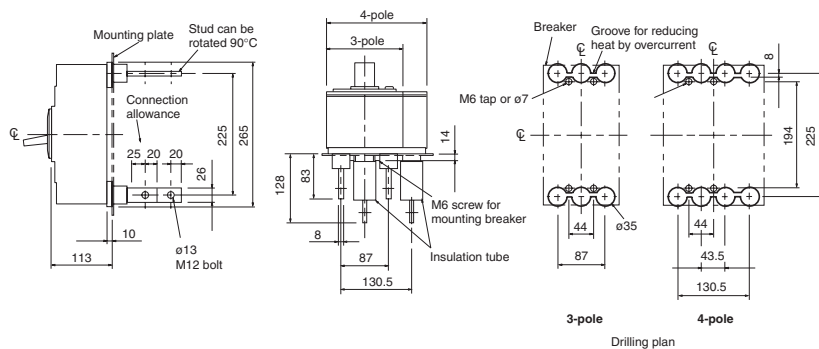
Front connection



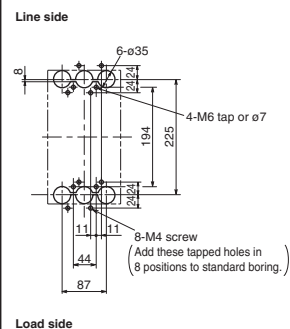
1.0mm clearance on each side of the handle frame.

Front-panel cutout

Rear connection



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



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

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers for CE Marking

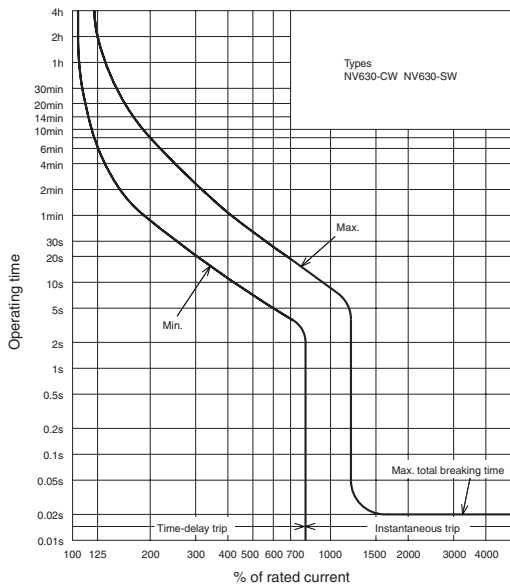
NV630-CW NV630-SW



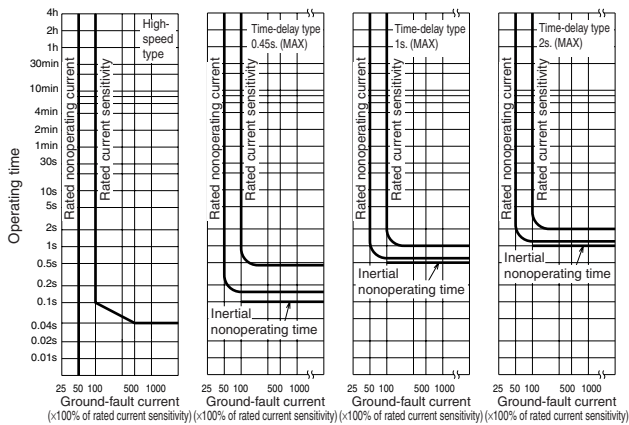
Type NV630-SW

Type name			NV630-CW	NV630-SW
Number of poles			3	
Rated operational voltage Ue (V AC)			100-440 Multi-voltage type	
Rated current In (Amp.)			500 600 630	
High-speed type	Rated current sensitivity IΔn (mA)		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	36/18	42/42
		400V	36/18	50/50
		230V	50/25	85/85
Standard Attached Parts (Front connection)			Mounting screw: M6×72 (4pcs) Insulation barrier: (4pcs)	

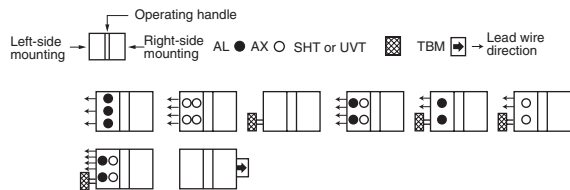
Operating Characteristics



Earth-Leakage Tripping Characteristics



Internal Accessories



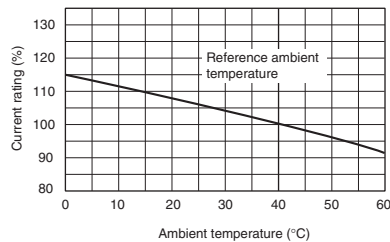
Remark: 1. Refer to page 53.

External Accessories

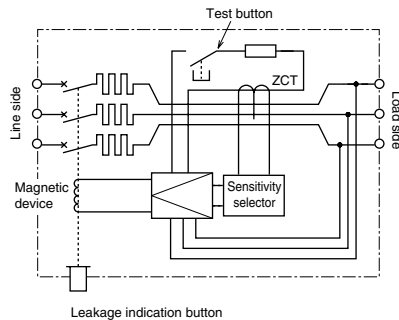
External Accessories (An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Terminal cover	Large (TC-L)	70
	V V-4S	65		Skeleton (TTC)	
	S S4SW	68		Rear (BTC)	
Mechanical interlock (MI)	MI-4SW3	79	Handle lock device	HL	80
Auxiliary handle (HT)	HT-4SW	80		HL-S	
			Electrical operation device	☆	71

Ambient Compensating Curve

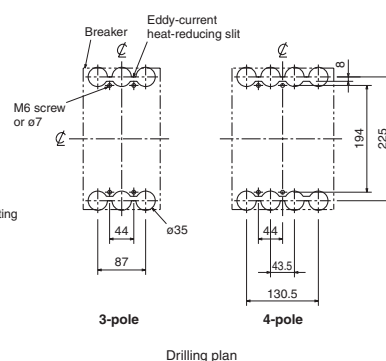
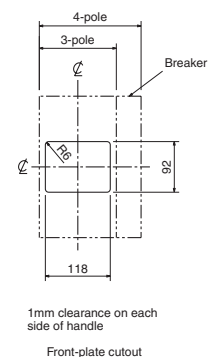
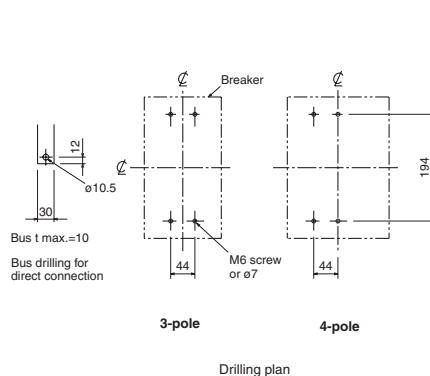


Internal Wiring Diagram

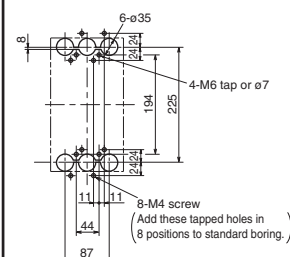


The image contains three technical drawings of circuit breakers:

- 3-pole front view:** Shows a three-phase breaker with a total width of 140 mm and a mounting hole spacing of 110 mm. It includes labels for the 'Insulating barrier (removable)', 'Sensitivity selector', 'Operating-time selector (time-delay type)', 'Leakage-indicator button', 'Test button', and 'Trip button'. A mounting hole is labeled with a diameter of $\varnothing$. The bottom mounting holes are spaced 51 mm apart, and the base width is 112 mm.
- 4-pole front view:** Shows a four-phase breaker with a total width of 196 mm and a mounting hole spacing of 168 mm. It includes labels for the 'Neutral Pole' and a mounting hole with a diameter of $\varnothing$. The bottom mounting holes are spaced 56 mm apart, and the base width is 168 mm.
- Side and detail views:**
 - The side view shows a total height of 257 mm and a mounting hole spacing of 102 mm. It includes a label for 'Bus t max.=10'.
 - The detail view shows a mounting hole with a diameter of $\varnothing$ and a spacing of 94.5 mm. Other dimensions include 44 mm, 30 mm, 59 mm, 12 mm, 44 mm, 97 mm, 103 mm, 107 mm, 5 mm, and 155 mm.



Line side



Load side

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

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers for CE Marking

NV630-SEW NV630-HEW

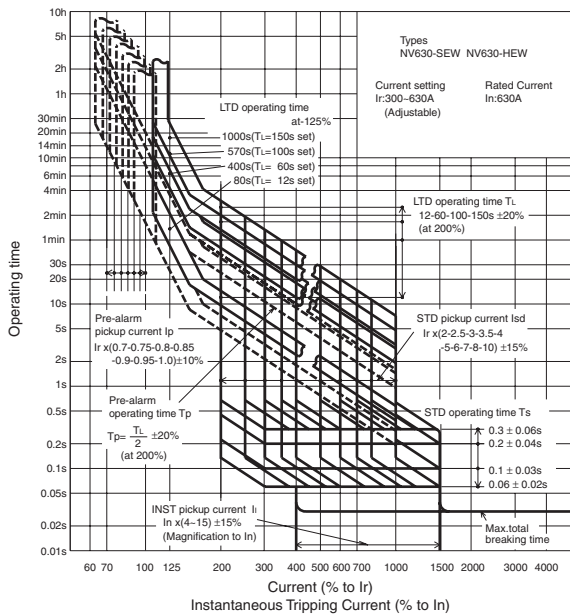


Type NV630-SEW

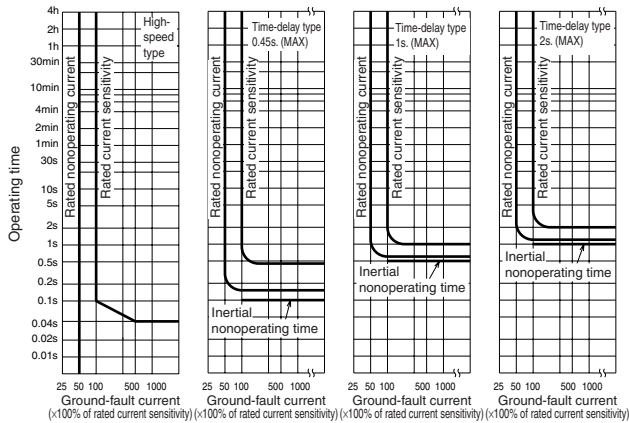
Type name			NV630-SEW		NV630-HEW	
Number of poles			3	4	3	
Rated operational voltage Ue (V AC) (*1)			100-440 Multi-voltage type			
Rated current In (Amp.)			300-630 adjustable			
High-speed type	Rated current sensitivity IΔn (mA)		100 · 200 · 500 Selectable			
	Max. operating time at 5IΔn (s)		0.04			
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	
			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.

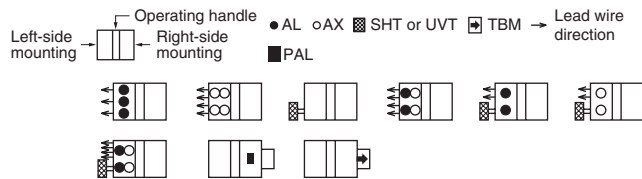
Operating Characteristics



Earth-Leakage Tripping Characteristics

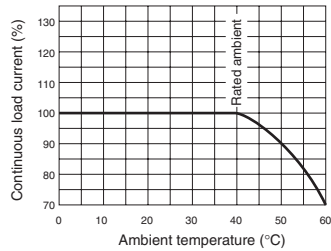


Internal Accessories



Remark 1. Instead of TBM, pre-alarm module (PAL) can be attached.
2. Refer to page 53.

Current reducing curve



External Accessories

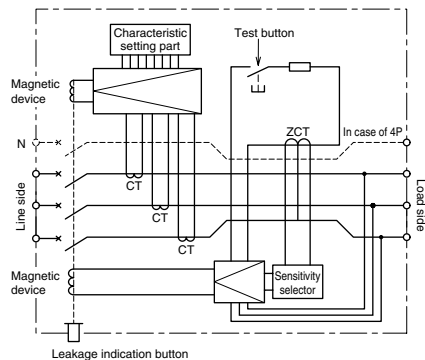
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Large (TC-L)	TCL-4SW3 (*1)(*2)	70
	V V-4S	65	Skeleton (TTC)	TTC-4SW3 (*2)	
	S S4SW	68	Rear (BTC)	BTC-4SW3 (*1)(*2)	
Mechanical interlock (MI)	MI-4SW3 (*1)	79	Handle lock device	HL HL-4SW	80
Auxiliary handle (HT)	HT-4SW	80		HL-S HLS-4SW	
Electrical operation device				☆	71

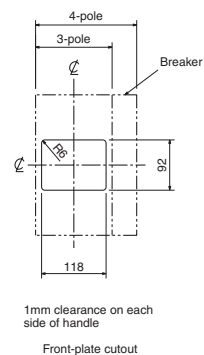
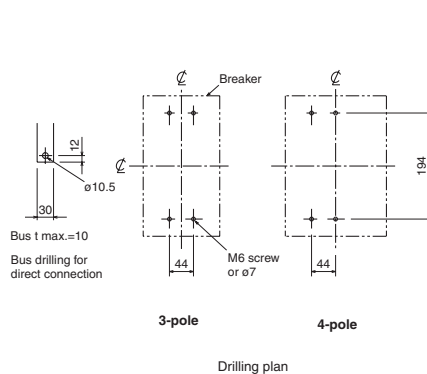
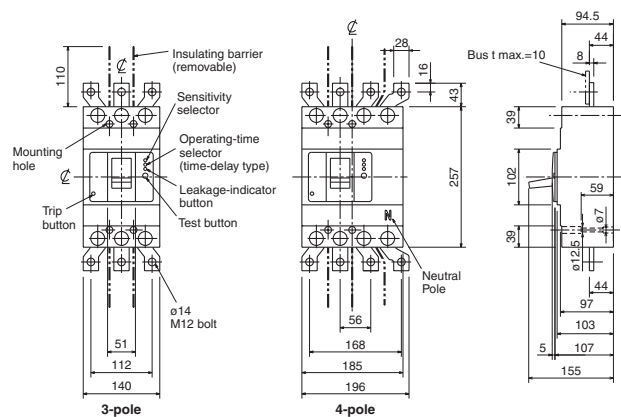
Note (*1) This is for NV630-SEW

(*2) The designation depends on the number of poles. Refer to the reference page.

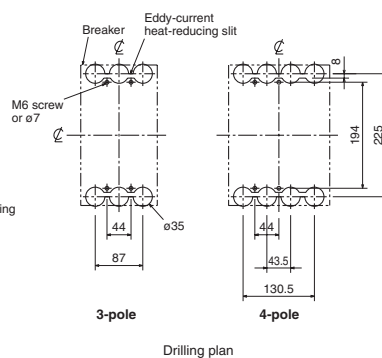
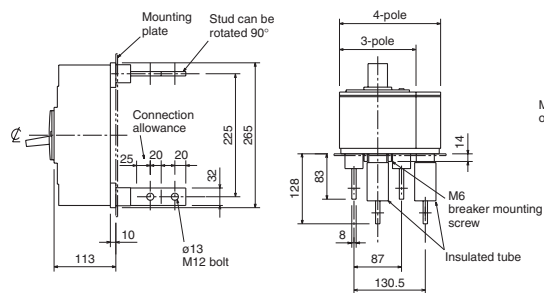
Internal Wiring Diagram



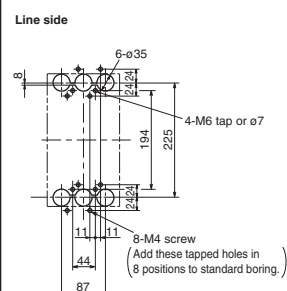
Front connection



Rear connection



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



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

6. Characteristics and Dimensions

Earth-Leakage Circuit Breakers for CE Marking

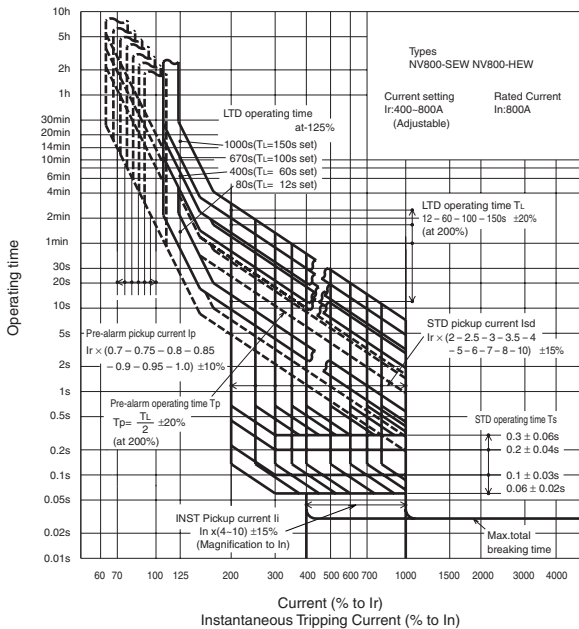
NV800-SEW NV800-HEW



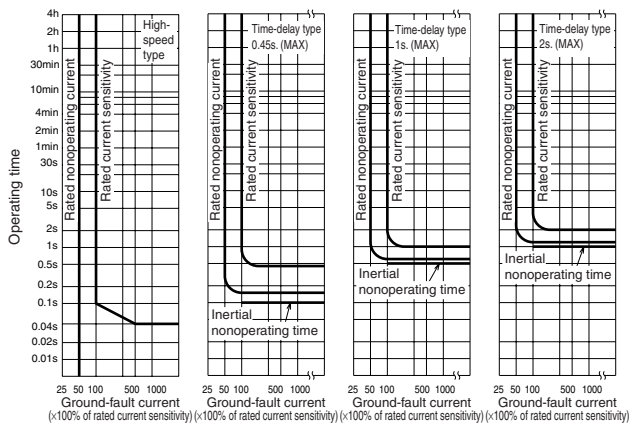
Type NV800-SEW

Type name			NV800-SEW	NV800-HEW
Number of poles			3	
Rated operational voltage Ue (V AC)			100-440 Multi-voltage type	
Rated current In (Amp.)			400-800 adjustable	
High-speed type	Rated current sensitivity IΔn (mA)		(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
		400V	50/50	70/70
		230V	85/85	100/100
Standard Attached Parts (Front connection)			Mounting screw: M6×35 (4pcs) Insulation barrier: (2pcs)	

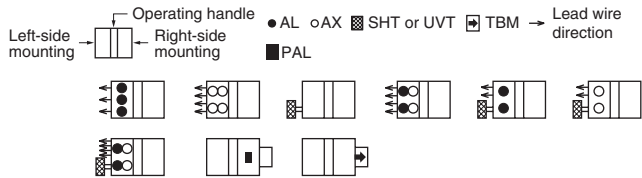
Operating Characteristics



Earth-Leakage Tripping Characteristics



Internal Accessories



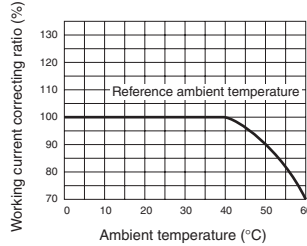
Remark: 1. Instead of TBM, pre-alarm module (PAL) or trip indicator (TI) can be attached.
2. Refer to page 53.

External Accessories

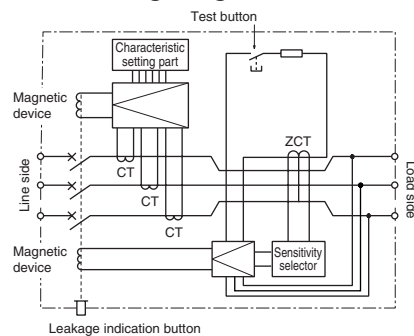
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-8S	62	Large (TC-L)	TCL-8SW3	70
	V V-8S	65	Skeleton (TTC)	TTC-8SW3	
	S S4SW	68	Rear (BTC)	BTC-8SW3	
Mechanical interlock (MI)	MI-8SW3	79	Handle lock device	HL HL-4SW HL-S HLS-8SW	80
Auxiliary handle (HT)	HT-4SW	80	Electrical operation device	☆	71

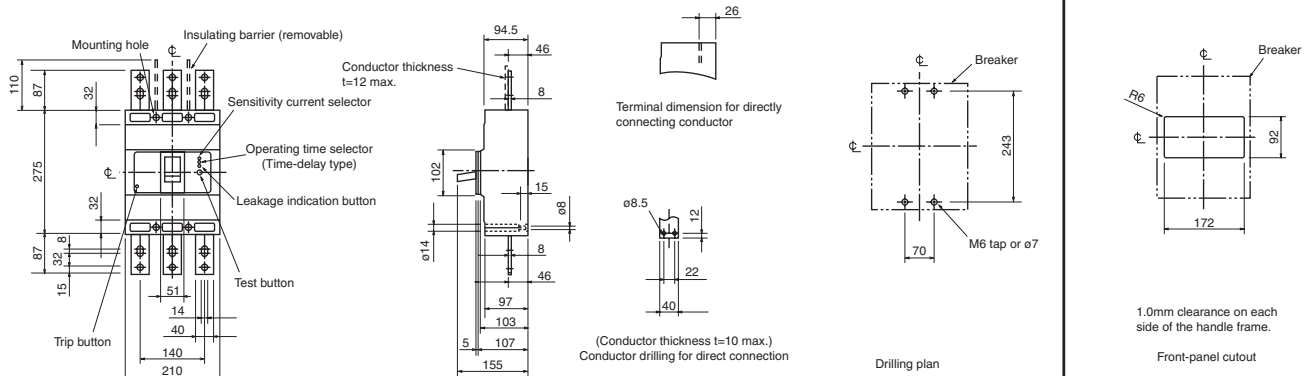
Current reducing curve



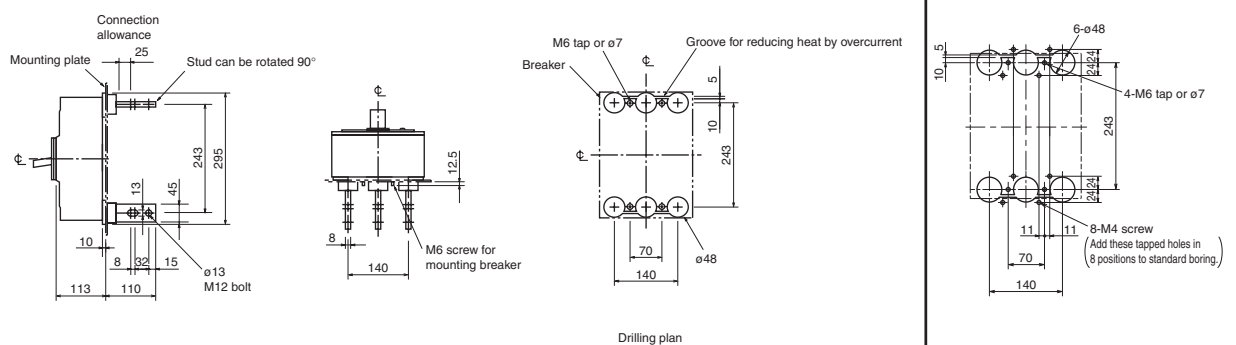
Internal Wiring Diagram



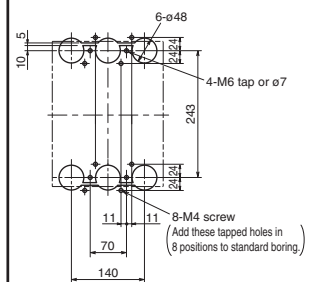
Front connection



Rear connection



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



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

6. Characteristics and Dimensions

UL489 Listed Molded-Case Circuit Breakers

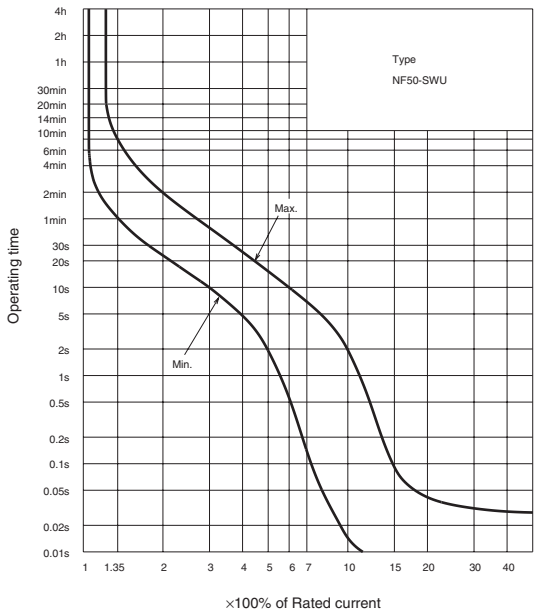
NF50-SWU



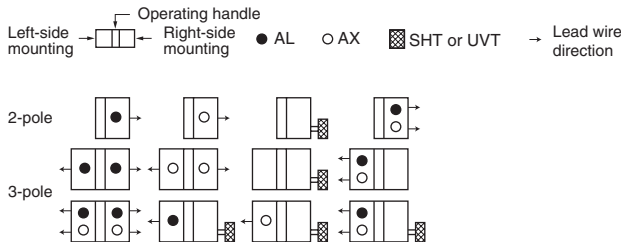
Type NF50-SWU

Type name				NF50-SWU	
Rated current In (Amp.)				(3) 5 10 15 20 30 40 50	
Number of poles				2	3
Rated short-circuit breaking capacity (kA)	UL489	Rated voltage (AC V)		240	
		AC	240V	14	
	IEC 60947-2 (Icu/Ics)	Rated insulation voltage Ui (V)		600	
		AC	500V	7.5/4	
			440V	7.5/4	
			400V	7.5/4	
			230V	15/8	
Standard attached parts				Mounting screw: M4×0.7×55 (2pcs) Insulation barrier: (2P: 2pcs, 3P: 4pcs)	

Operating Characteristics

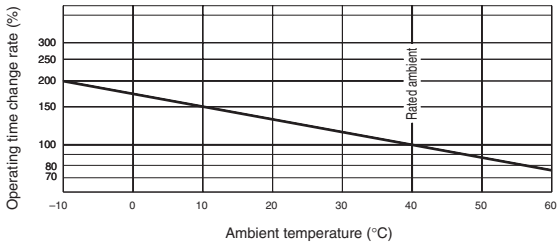


Internal Accessories



Remark: 1. Refer to page 54.

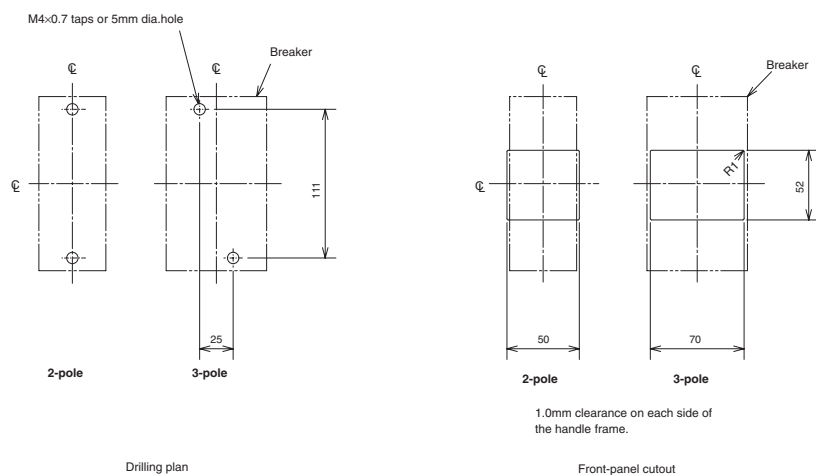
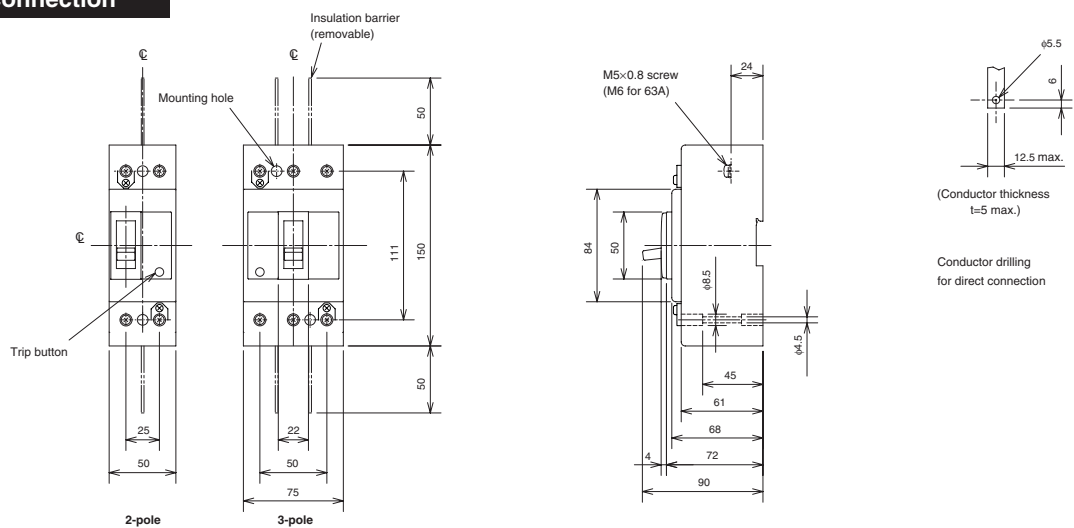
Temperature Characteristics



External Accessories

Accessories		Type name	Accessories		Type name	
Operating handle	F	F-05SUL2 F-05SUL	Mechanical interlock		MI	MI-05SWU3
	V	V-05SUL2 V-05SUL	Terminal cover	Large	TC-L	TCL-05SWU2 TCL-05SWU3
	S	S05SWU				
Handle lock device	HL	HLF-05SWU				

Front connection



6. Characteristics and Dimensions

UL489 Listed Molded-Case Circuit Breakers

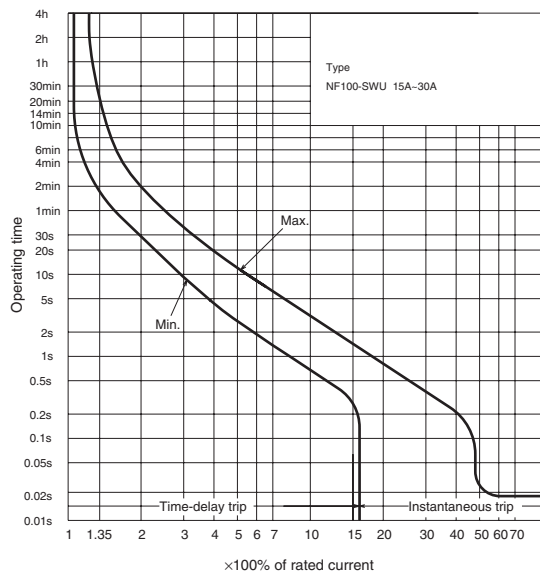
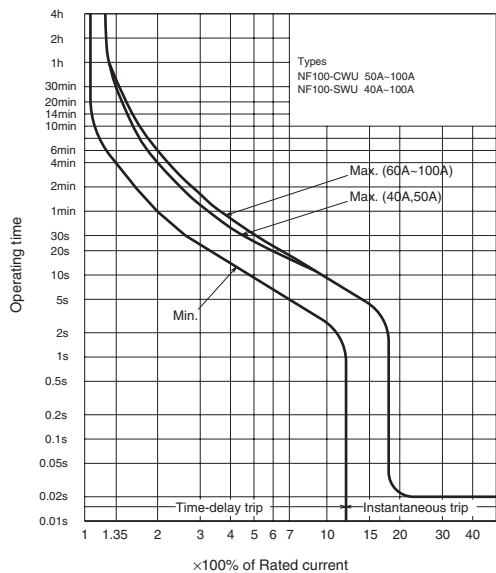
NF100-CWU NF100-SWU



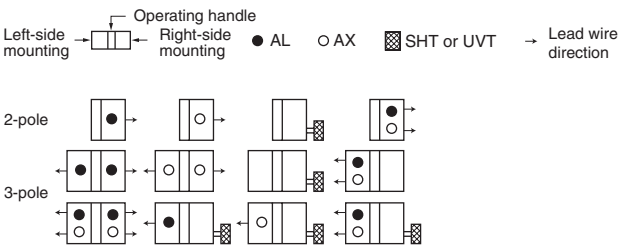
Type NF100-SWU

Type name				NF100-CWU		NF100-SWU	
Rated current In (Amp.) at ambient temperature 40°C (IEC30°C)				50 60 75 100		15 20 30 40 50 60 75 100	
Number of poles				2	3	2	3
Rated short-circuit breaking capacities (kA)	UL 489	Rated voltage (AC V)		240		480Y/277	
		AC	480Y/277V	—		22	
			240V	10		35	
	IEC 60947-2 (Icu/Ics)	Rated insulation voltage Ui (V)		600		690	
		AC	690V	—		8/4	
			500V	7.5/4		18/9	
			440V	10/5		25/13	
			400V	10/5		30/15	
			230V	30/15		50/25	
		DC	250V	7.5/4		15/8	
Standard attached parts				Mounting screw: M4×0.7×55 (2pcs) Insulation barrier: (2P: 2pcs, 3P: 4pcs), Insulation board: (1pc)			

■Operating Characteristics

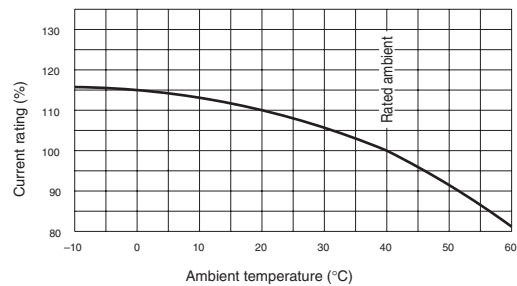


■Internal Accessories



Remark: 1. Refer to page 54.

■Ambient Compensating Curve

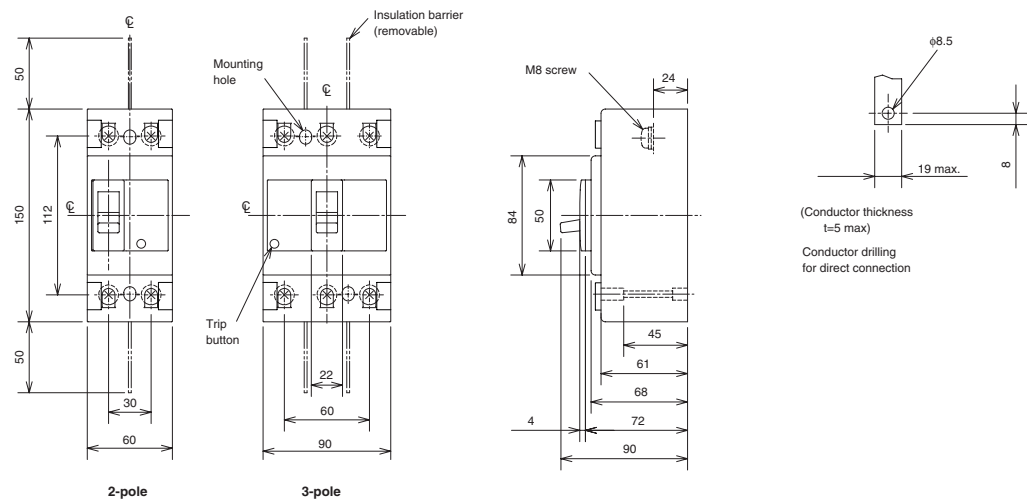


■External Accessories

Accessories	Type name	Accessories	Type name
Operating handle	F F-1SUL2 F-1SUL	Mechanical interlock	MI MI-05SWU3
	V V-1SUL2 V-1SUL	Terminal cover	TC-L TCL-1SWU2 TCL-1SWU3
	S S1SWU		
Handle lock device	HL HLF-1SWU		

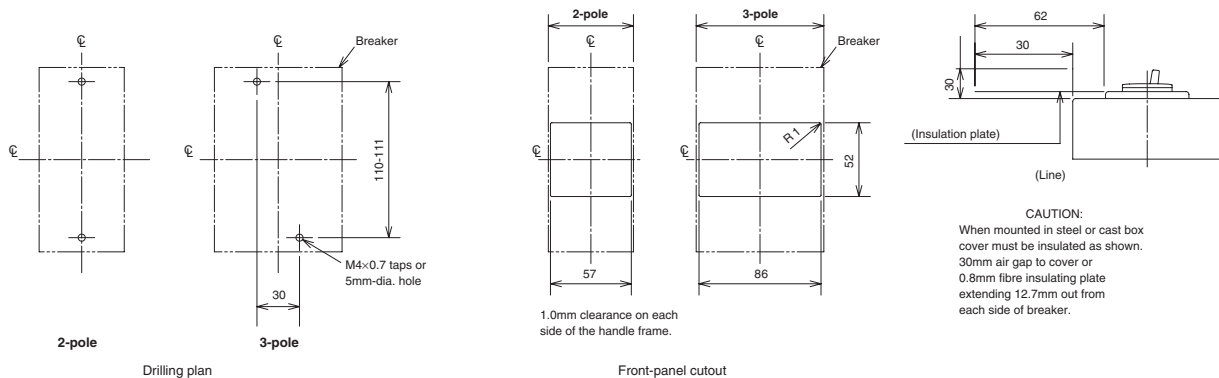
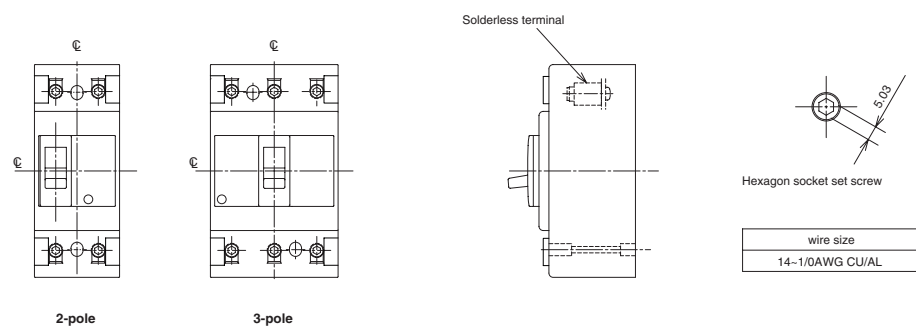
Front connection

(Standard)



Front connection (Solderless terminal)

(Option)



6. Characteristics and Dimensions

UL489 Listed Molded-Case Circuit Breakers

NF225-CWU

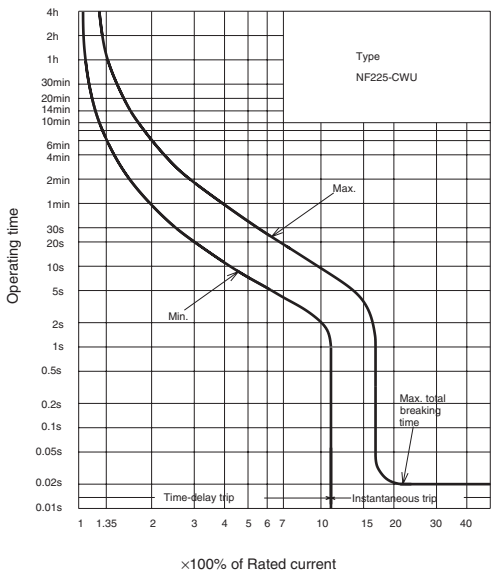


Type NF225-CWU

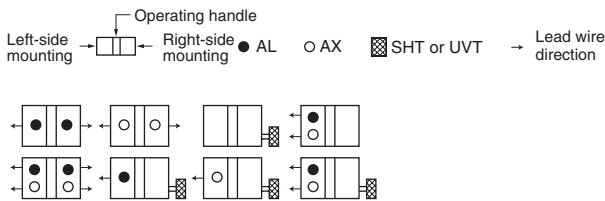
Type name				NF225-CWU	
Rated current In (Amp.) at ambient temperature 40°C (IEC30°C)				125 150 175 200 225	
Number of poles				3	
Rated short-circuit breaking capacities (kA)	UL 489	Rated voltage (AC V)		240	
		AC	240V	35	
	IEC 60947-2 (Icu/Ics)	Rated insulation voltage Ui (V)		600	
		AC	500V	10/5	
			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)	

Note (*1) Use either two poles. When wired as shown at the bottom of page 26, 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

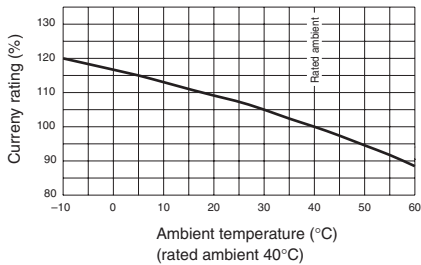


Internal Accessories



Remark: 1. Refer to page 54.

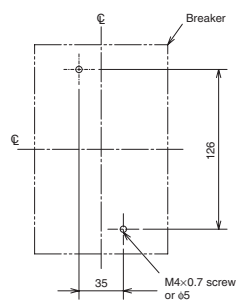
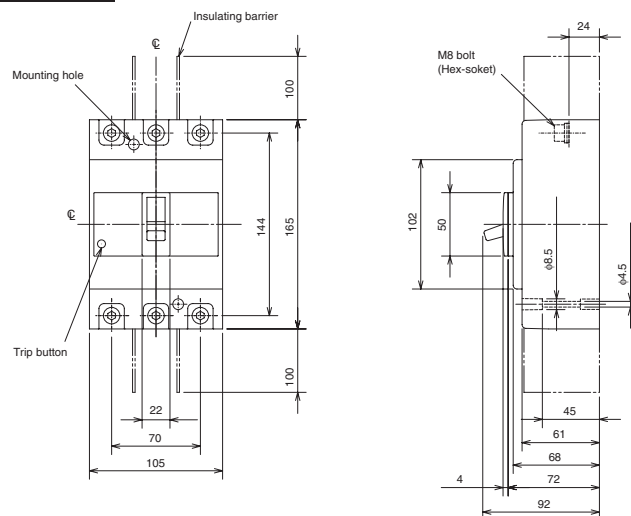
Ambient Compensating Curve



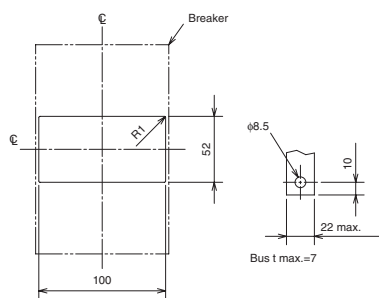
External Accessories

Accessories		Type name	Accessories		Type name	
Operating handle	F	F-2SUL	Mechanical interlock		MI	MI-05SWU3
	V	V-2SUL				
	S	S2SWU				
Handle lock device	HL	HLF-2SWU	Terminal cover	Large	TC-L	TCL-2SWU3

Front connection



Drilling plan



Front cover cutout
1mm clearance on
each side of handle

Bus drilling for
direct connection

6. Characteristics and Dimensions

UL489 Listed Molded-Case Circuit Breakers

NF-SFW
NF-SJW
NF-HJW

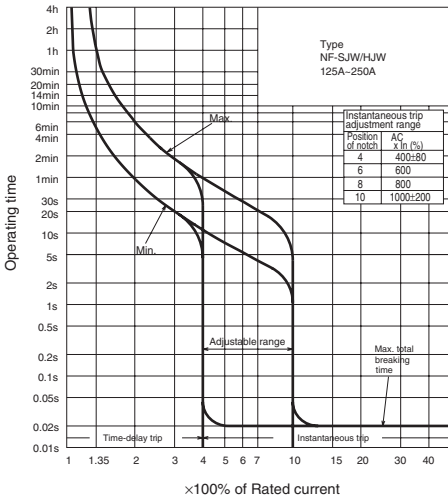
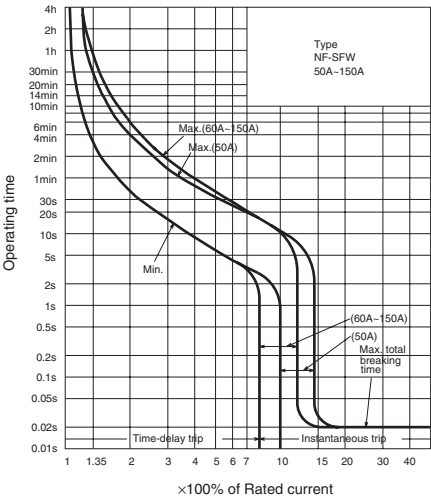
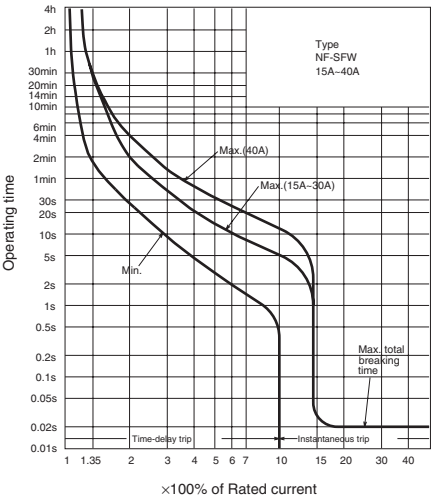


Type NF-SFW

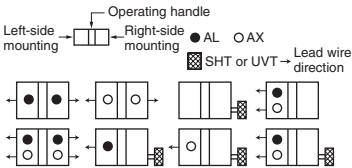
Type name				NF-SFW	NF-SJW	NF-HJW
Rated current In (Amp.) at ambient temperature 40°C (IEC30°C)				15 20 30 40 50 60 70 80 90 100 110 125 150	(125) (150) 175 200 225 250	125 150 175 200 225 250
Number of poles				3	3	3
Rated short-circuit breaking capacities (kA)	UL 489	Rated voltage (AC V)		600Y/347	600Y/347	600Y/347
		AC	600Y/347V	14	14	18
			480V	35	35	50
			240V	65	65	100
	IEC 60947-2 (Icu/Ics)	Rated insulation voltage Ui (V)		690	690	690
		AC	690V	8/8	8/8	15/15
			500V	30/30	30/30	36/36
			440V	36/36	36/36	50/50
			400V	36/36	36/36	50/50
			230V	85/85	85/85	100/100
			DC	250V (*1)	20/20	20/20
Standard attached parts			Mounting screw: M4×0.7×73 (4pcs) Insulation barrier: (4pcs), Insulation board: (1pc)			

Note (*1) Use either two poles. When wired as shown at the bottom of page 26, the models can be used for up to 500 V DC.

Operating Characteristics

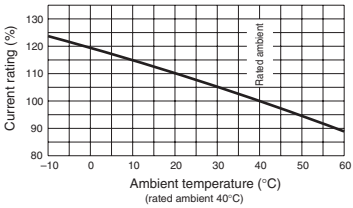


Internal Accessories



Remark: 1. Refer to page 54.

Ambient Compensating Curve



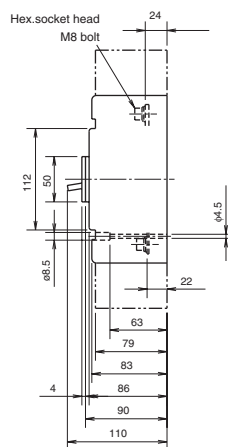
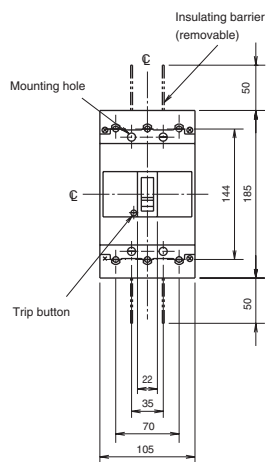
Remark: 1. The reference ambient temperature for IEC models is 30°C.

External Accessories

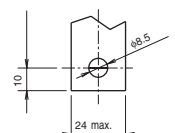
Accessories	Type name	Accessories	Type name
Operating handle	F F-2SGUL	Mechanical interlock	MI MI-05SWU3
	V V-2SGUL		
	S S2GSWU	Terminal cover	TC-L TCL-2GSWU3
Handle lock device	HL HLF-2GSWU		

Front connection

(Standard)



CAUTION:
Insulating barriers must be used
with uninsulated bus bars or
climp on terminals.



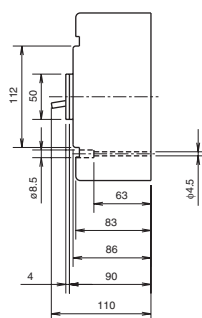
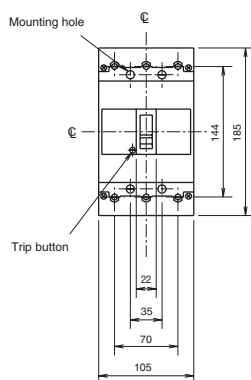
(Conductor thickness $t=7\text{max.}$)

Bus bar drilling for
direct connection

4-FRONT

Front connection (Solderless terminal)

(Option)

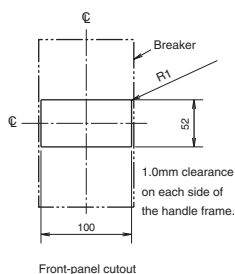
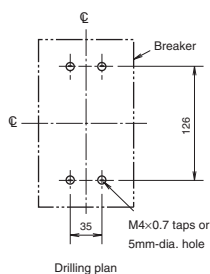


Hexagon socket set screw

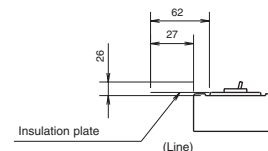


Wire size
14AWG-250MCM CU/AL

3-FRONT



CAUTION:
When mounted in steel or cast box cover
must be insulated as shown.
26mm air gap to cover or extending 12.7mm
out from each side of breaker.



5-RIGHT

Outline and dimensions (mm (inch))
Type NF-SFW,NF-SJW,NF-HJW

6. Characteristics and Dimensions

UL489 Listed Molded-Case Circuit Breakers

NF-SKW

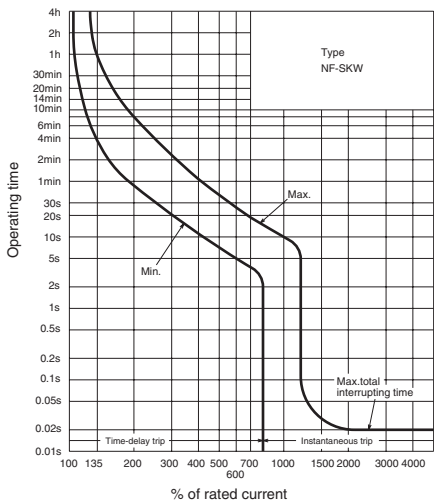


Type NF-SKW

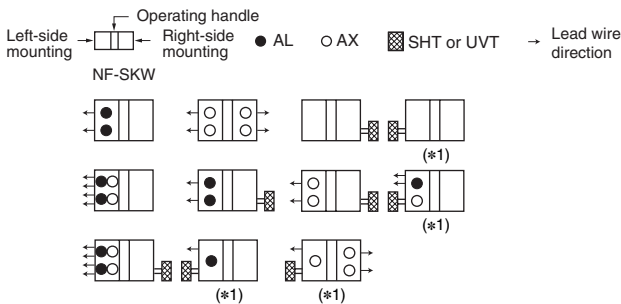
Type name				NF-SKW	
Rated current In (Amp.) at ambient temperature 40°C				250 300	350 400
Number of poles				3	
Rated short-circuit breaking capacities (kA)	UL 489	Rated voltage (AC V)		600Y/347	
		AC	600Y/347V	20	
			480V	35	
			240V	65	
	IEC 60947-2 (Icu/Ics)	Rated insulation voltage Ui (V)		690	
		AC	690V	10/10 (5/5) (*1)	
			500V	30/30 (25/25) (*1)	
			440V	42/42 (36/36) (*1)	
			400V	45/45 (36/36) (*1)	
			230V	85/85 (65/65) (*1)	

Note (*1) In case of solderless terminal, interrupting capacity reduces: (/).

Operating Characteristics



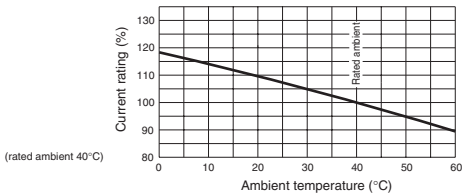
Internal Accessories



Note (*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting.

Remark: 1. Refer to page 54.

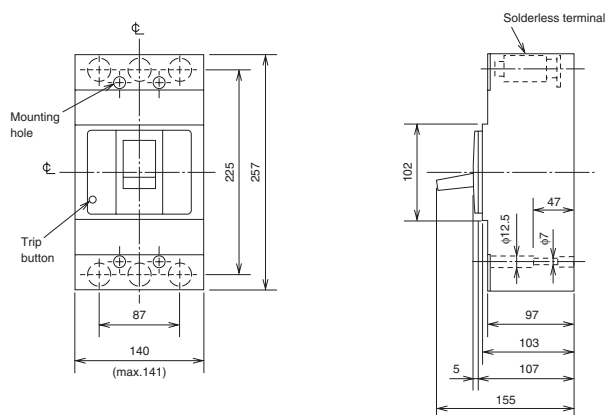
Ambient Compensating Curve



External Accessories

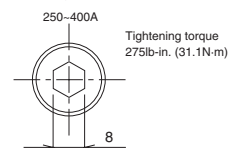
Accessories		Type name	Accessories			Type name
Operating handle	F	F-4SUL	Terminal cover	Large	TC-L	TCL-4SKW
	V	V-4SUL				
	S	S4SKW				
Handle lock device	HL	HL-4SP				

Front connection (Solderless terminal)



Note: Do not remove solderless terminal in any case.
Standard attached parts
Mounting screw:M6×60 (4pcs), Insulating plate: (1pc)

Hexagon socket set screw



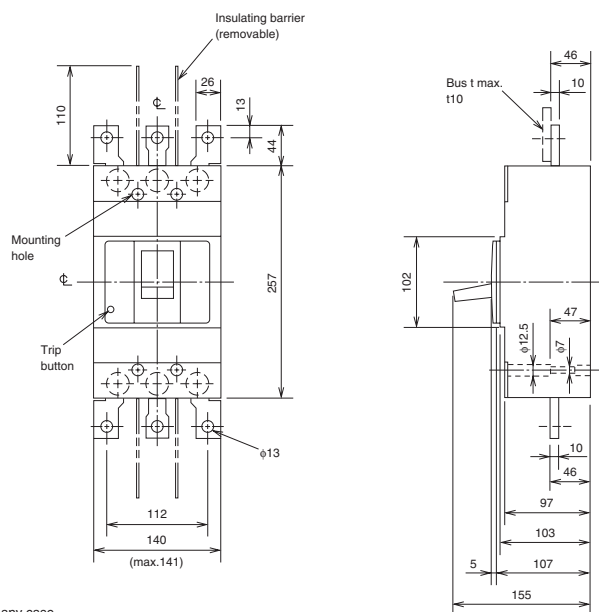
UL

Ampere ratings	Wire size
250A, 300A	250-350MCM CU
250A	350MCM AL
350A, 400A	3/0AWG CU ONLY

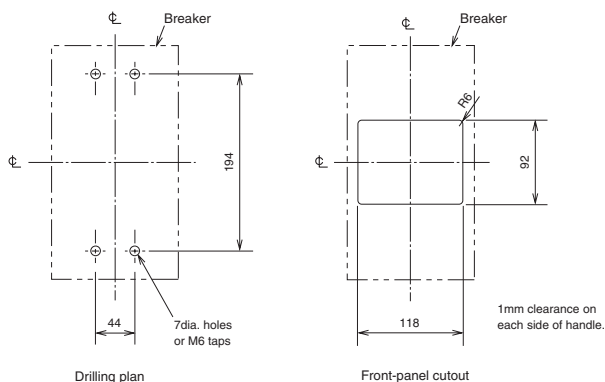
IEC

Ampere ratings	Wire size (IEC 60228)	
	Class 2	Class 5
250A~350A	70~185mm ²	95~185mm ²
400A	150~240mm ²	150~185mm ²

Front connection (Busbar terminal)

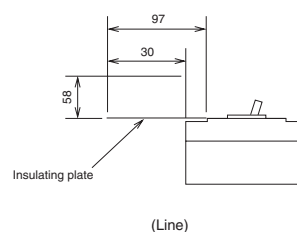


Note: Do not remove busbar terminal in any case.
Standard attached parts
Mounting screw:M6×60 (4pcs), Insulating barrier: (4pcs), Insulating plate: (1pc)



CAUTION

When mounted in steel or cast box cover must be insulated as shown.
58mm air gap to cover or 0.8mm fibre insulating plate extending 12.7mm out from each side of breaker.



6. Characteristics and Dimensions

UL489 Listed Molded-Case Circuit Breakers

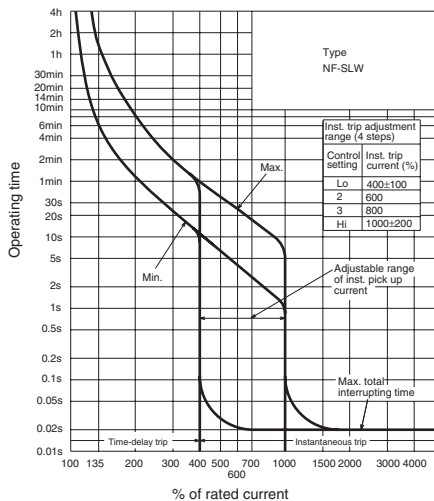
NF-SLW



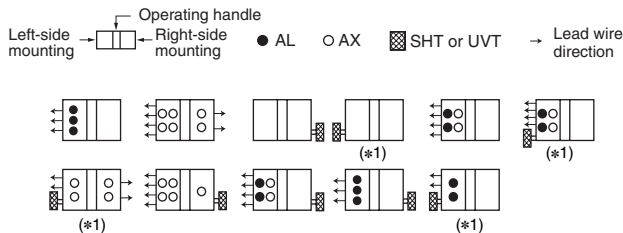
Type NF-SLW

Type name			NF-SLW	
Rated current In (Amp.) at ambient temperature 40°C			500 600	
Number of poles			3	
Rated short-circuit breaking capacities (kA)	UL 489	Rated voltage (AC V)		600Y/347
		AC	600Y/347V	20
			480V	35
			240V	85
	IEC 60947-2 (Icu/Ics)	Rated insulation voltage Ui (V)		690
		AC	690V	10/10
			500V	30/30
			440V	42/42
			400V	45/45
		230V	85/85	

Operating Characteristics



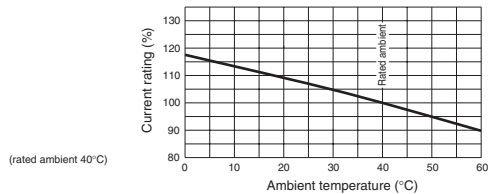
Internal Accessories



Note (*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting.

Remark: 1. Refer to page 54.

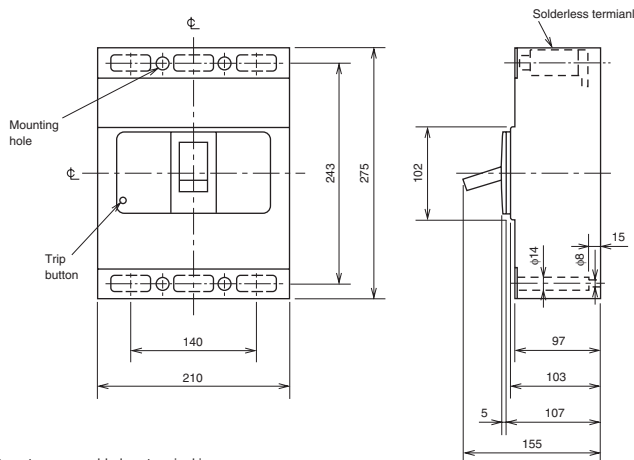
Ambient Compensating Curve



External Accessories

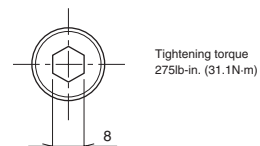
Accessories		Type name	Accessories			Type name
Operating handle	F	F-6SUL	Terminal cover	Large	TC-L	TCL-6SLW
	V	V-6SUL				
	S	S4SKW				
Handle lock device	HL	HL-4SP				

Front connection (Solderless terminal)



Note: Do not remove solderless terminal in any case.
Standard attached parts
Mounting screw:M6×35 (4pcs), Insulating plate: (1pc)

Hexagon socket set screw



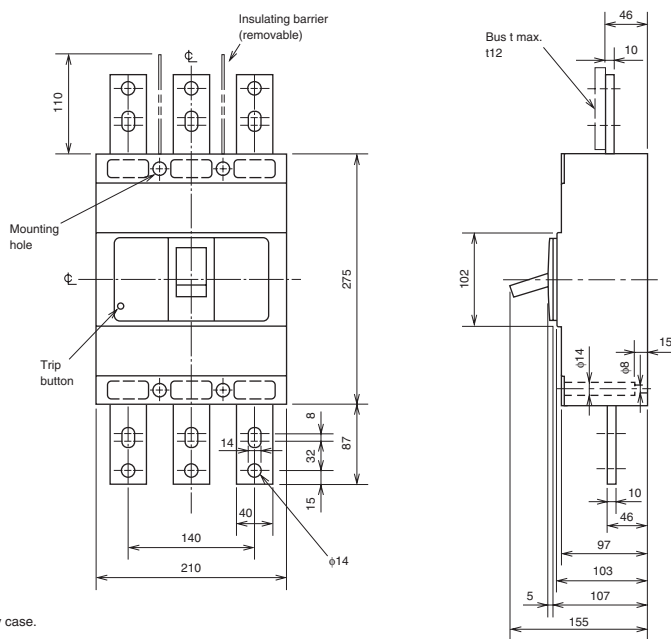
UL

Ampere ratings	Wire size
500A, 600A	250-500MCM CU ONLY

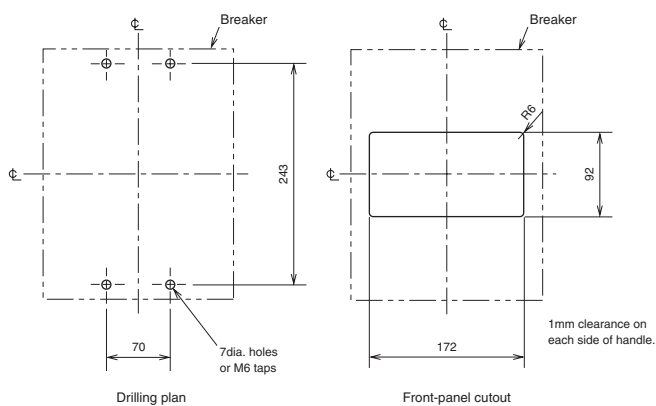
IEC

Ampere ratings	Wire size (IEC 60228)	
	Class 2	Class 5
500A, 600A	95~185mm ²	120~185mm ²

Front connection (Busbar terminal)

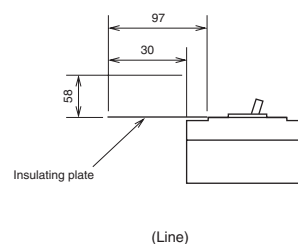


Note: Do not remove busbar terminal in any case.
Standard attached parts
Mounting screw:M6×35 (4pcs), Insulating barrier: (2pcs), Insulating plate: (1pc)



CAUTION

When mounted in steel or cast box cover must be insulated as shown.
58mm air gap to cover or 0.8mm fibre insulating plate extending 12.7mm out from each side of breaker.



6. Characteristics and Dimensions

Miniature Circuit Breakers

BH
BH-P



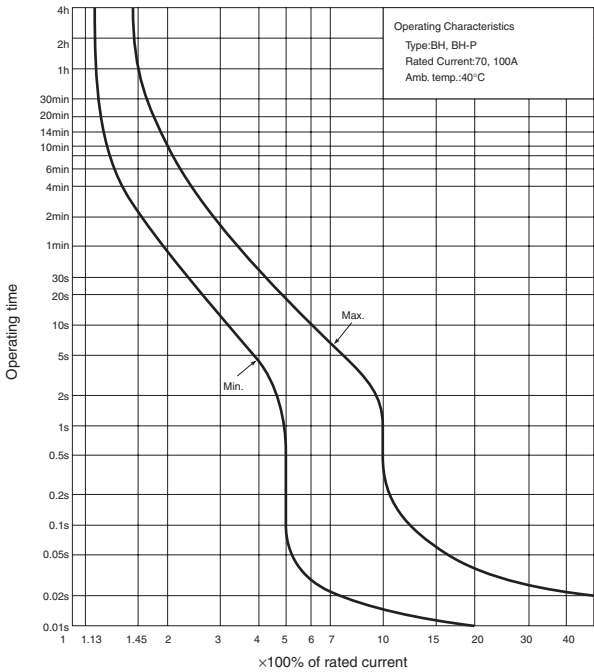
Type BH



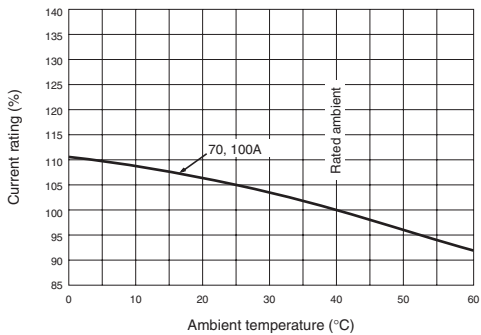
Type BH-P

Type		BH			BH-P		
Number of poles		1	2	3	1	2	3
Rated current (A) at ambient temperature 40°C		70	70, 100	70, 100	70	70, 100	70, 100
Rated voltage (V)	AC	230/400			230/400		
	DC	125			125		
Breaking capacity (kA) sym.	IEC 60898	AC230/400V	3	—	3	—	—
	—	AC400V	—	3	—	3	—
	—	DC125V	1			1	

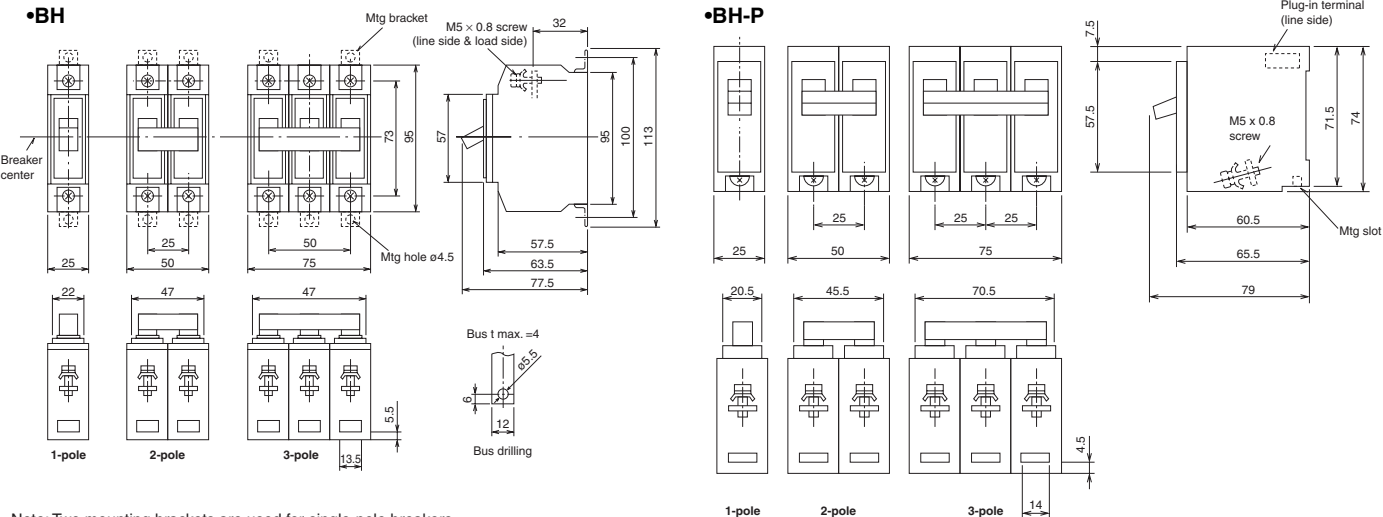
Operating Characteristics



Ambient Compensating Curve



Outside Dimension Diagram



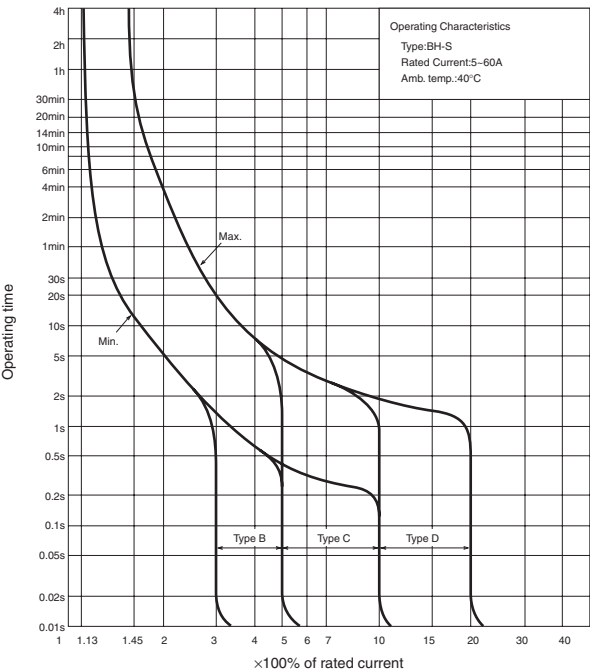
BH-S



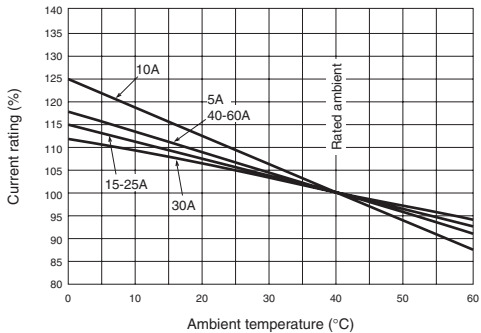
Type BH-S

Type		BH-S M3			BH-S M6		
Number of poles		1	2	3	1	2	3
Rated current (A) at ambient temperature 40°C		5, 10, 15, 20, (25), 30, 40, 50, 60	10, 15, 20, (25), 30, 40, 50, 60	15, 20, (25), 30, 40, 50, 60	5, 10, 15, 20, (25), 30, 40, 50, 60	10, 15, 20, (25), 30, 40, 50, 60	15, 20, (25), 30, 40, 50, 60
Rated voltage (V)	AC	230/400	400	400	230/400	400	400
	DC	—	125	—	—	125	—
Breaking capacity (kA) sym.	IEC 60898	AC230/400V	3	—	6	—	—
		AC400V	—	3	—	6	—
	—	DC125V	—	1	—	1	—

Operating Characteristics

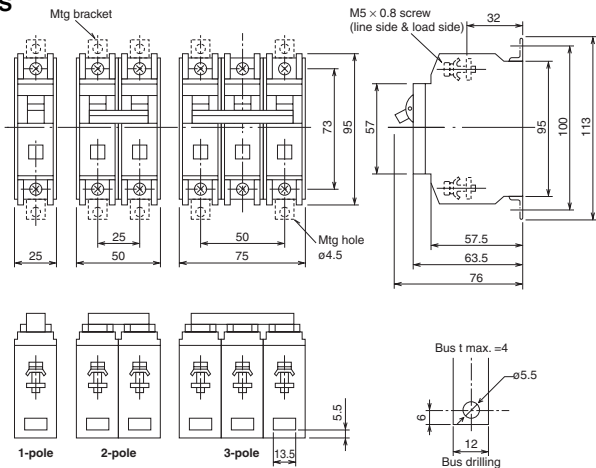


Ambient Compensating Curve



Outside Dimension Diagram

•BH-S



Note: Two mounting brackets are used for single-pole breakers. and four for two-pole and three-pole breakers.

6. Characteristics and Dimensions

Miniature Circuit Breakers

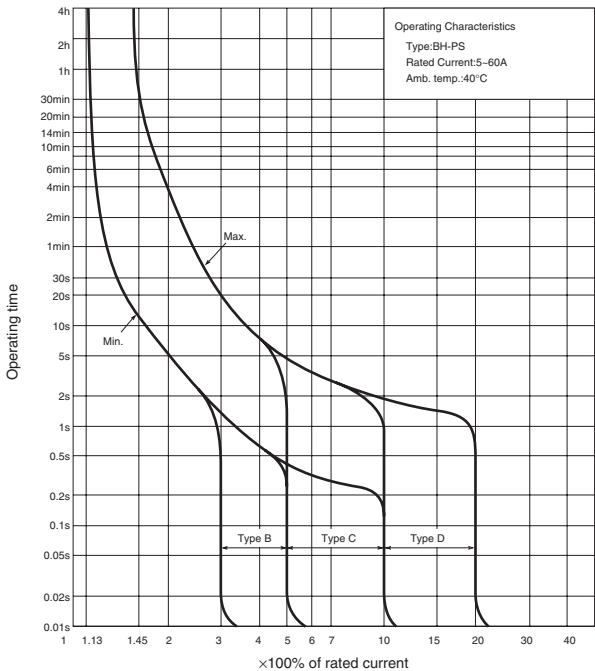
BH-PS



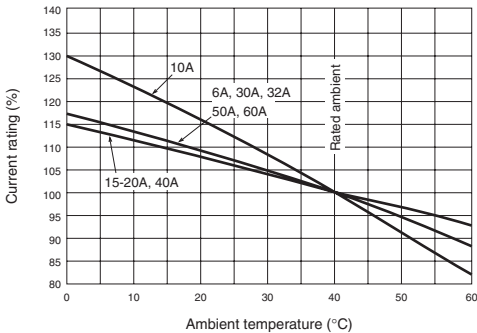
Type BH-PS

Type		BH-PS M3			BH-PS M9		
Number of poles		1	2	3	1	2	3
Rated current (A) at ambient temperature 40°C		10, 15, 20, 30, 40, 50, 60	10, 15, 20, 30, 40, 50, 60	15, 20, 30, 40, 50, 60	6, 10, 16, 20, (25), 32, 40, 50, 60	10, 16, 20, (25), 30, 40, 50, 60	10, 16, 20, (25), 32, 40, 50, 60
Rated voltage (V)	AC	230/400	400	400	230/400	400	400
	DC	—	125	—	—		
Breaking capacity (kA) sym.	IEC 60898	AC230/400V	3	—	9	—	—
		AC400V	—	3	—	9	—
		DC125V	—	1	—	—	—

Operating Characteristics

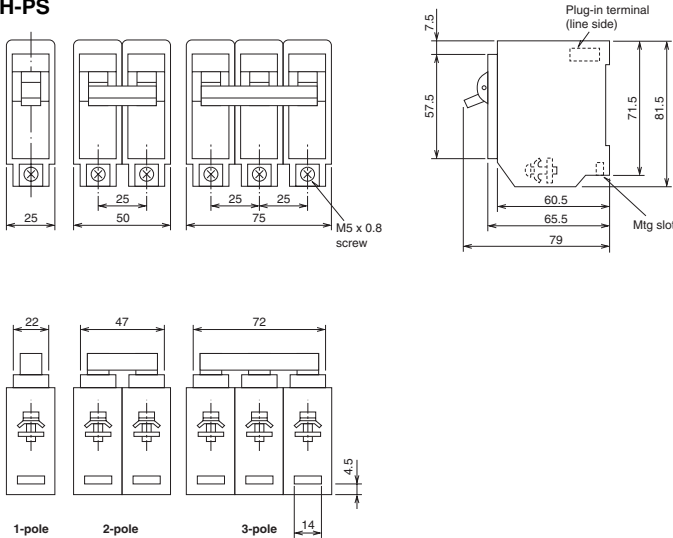


Ambient Compensating Curve



Outside Dimension Diagram

•BH-PS



6. Characteristics and Dimensions

DIN Series

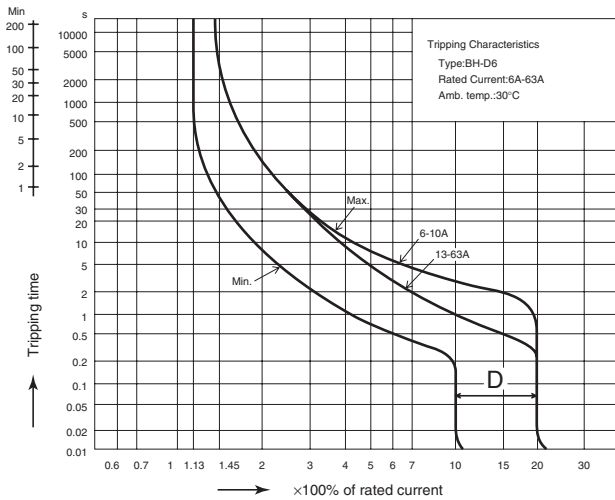
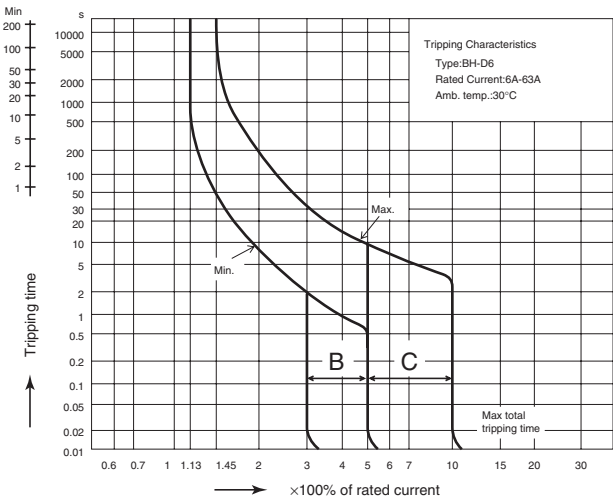
BH-D6



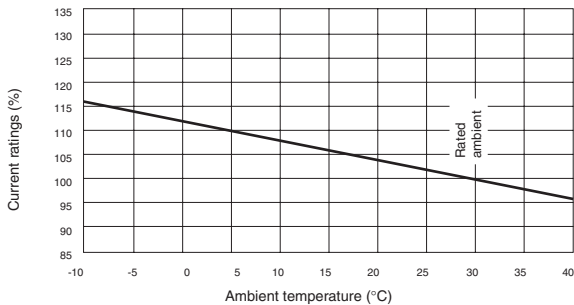
Type BH-D6

MCB	BH-D6 (IEC 60898)				
Number of poles	1	2	3	4 (3+N)	2 (1+N)
Rated current (A) at ambient temperature 30°C	6, 10, 13, 16, 20, 25, 32, 40, 50, 63	6, 10, 13, 16, 20, 25, 32, 40, 50, 63	6, 10, 13, 16, 20, 25, 32, 40, 50, 63	6, 10, 13, 16, 20, 25, 32, 40, 50, 63	6, 10, 13, 16, 20, 25, 32, 40
Rated voltage (VAC)	230/400	400	400	400	230
Breaking capacity (kA) sym. (IEC 60898)	6				

Operating Characteristics

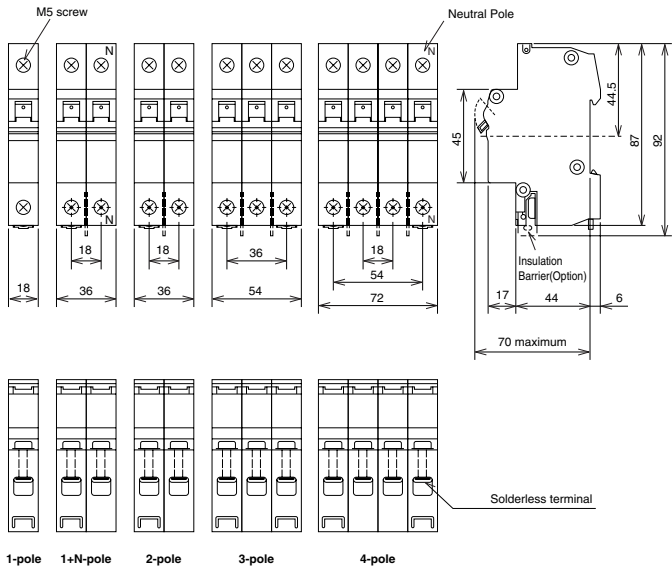


Ambient Compensating Curve



Outside Dimension Diagram

•BH-D6



6. Characteristics and Dimensions

DIN Series

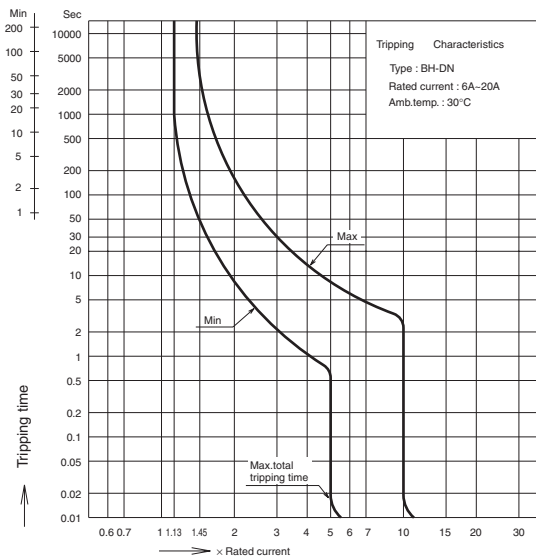
BH-DN



Type BH-DN

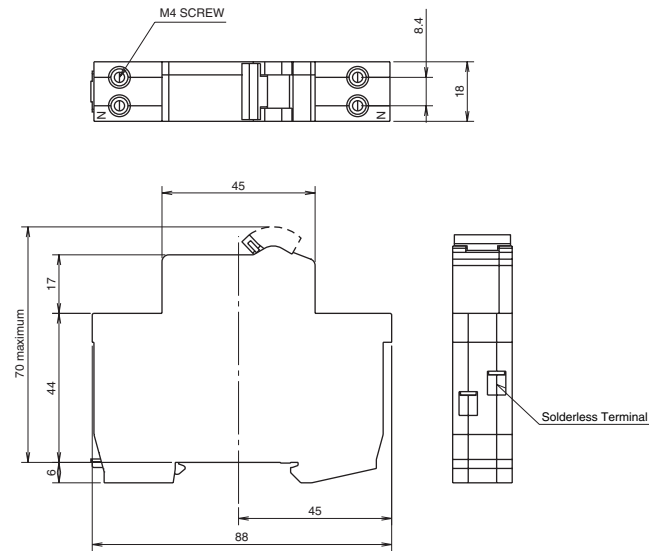
MCB	BH-DN (IEC 60898)
Number of poles	2 (1+N)
Rated current (A) at ambient temperature 30°C	6, 10, 16, 20
Rated voltage (VAC)	230
Breaking capacity (kA) sym. (IEC 60898)	4.5

Operating Characteristics



Outside Dimension Diagram

•BH-DN



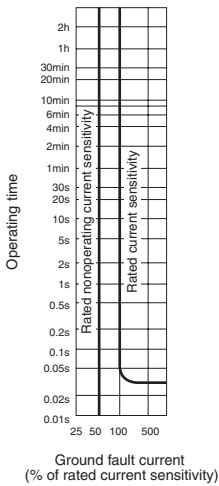
BV-D



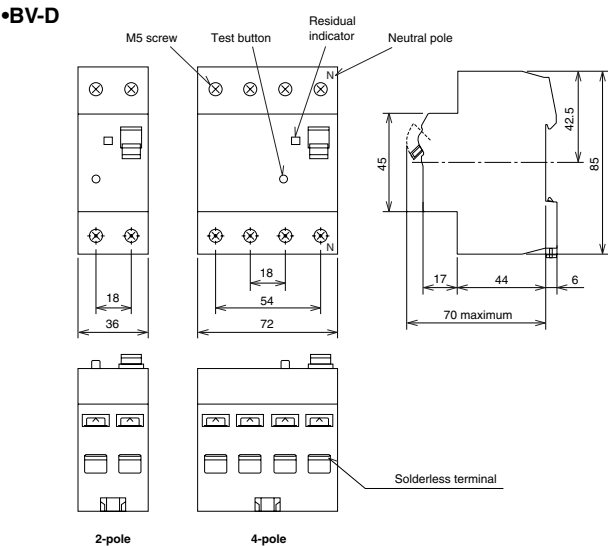
Type BV-D

RCCB	BV-D (IEC 61008)	
Number of poles	2 (1+N)	4 (3+N)
Rated current (A) at ambient temperature 30°C	25, 40, 63	
Rated voltage (VAC)	230	230/400
Rated current sensitivity I Δ n (mA)	30, 300	
Max. operating time (sec) at 5I Δ	0.04	
Pulsating current sensitivity	Type AC	
Rated conditional short-cirrent (kA)	6	

Operating Characteristics



Outside Dimension Diagram



6. Characteristics and Dimensions

DIN Series

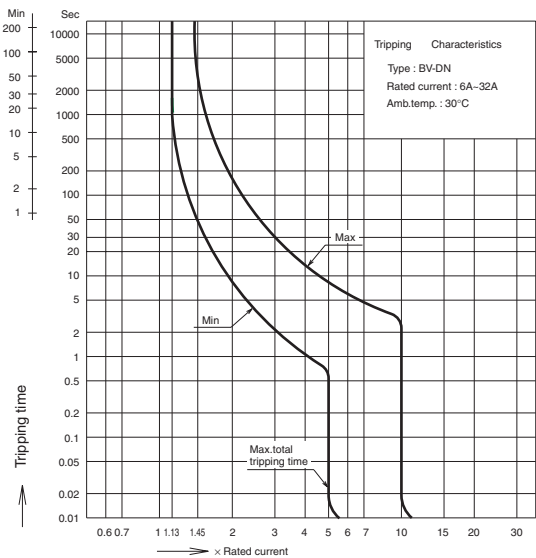
BV-DN



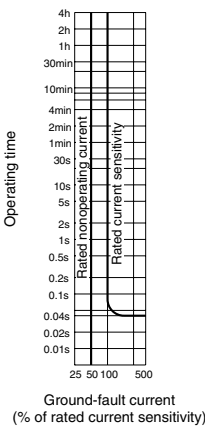
Type BV-DN

RCBO	BV-DN (IEC 61009)
Number of poles	2 (1+N)
Rated current (A) at ambient temperature 30°C	6, 10, 16, 20, 25, 32
Rated voltage (VAC)	230
Rated current sensitivity IΔn (mA)	30, 100, 300
Max. operating time (sec) at 5IΔn	0.04
Pulsating current sensitivity	Type AC
Breaking capacity (kA) sym (IEC 61009)	4.5

Operating Characteristics

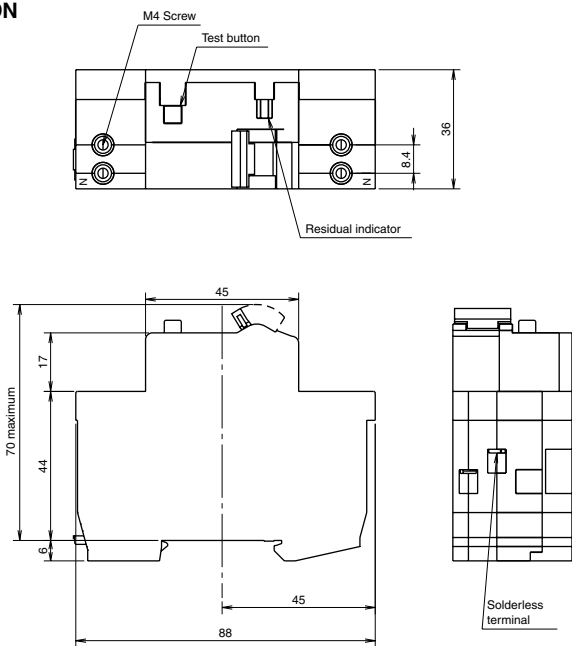


Leakage Tripping characteristics



Outside Dimension Diagram

•BV-DN



KB-D

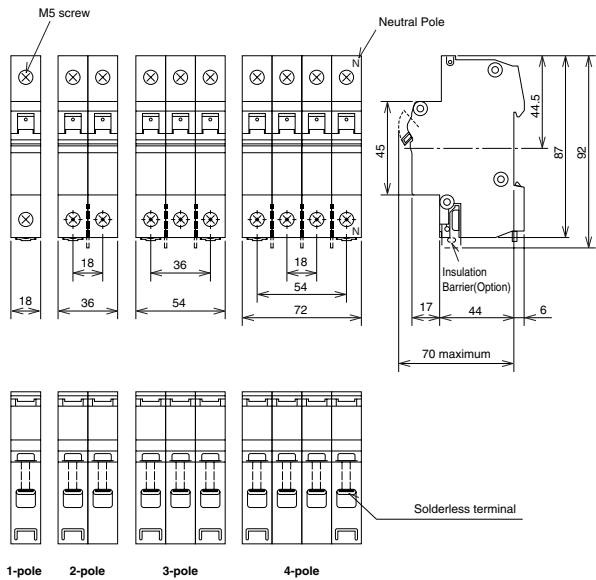


Type KB-D

Isolating switch	KB-D (IEC 60947-3)			
Number of poles	1	2	3	4 (3+N)
Utilization category	AC22A class			
Rated current (A) at ambient temperature 30°C	32, 63, 80			
Rated voltage (VAC)	230	400		
Shot time withstand current (A)	20 × In, 1s			
Shot-circuit making capacity (A)	20 × In			

Outside Dimension Diagram

•KB-D



6. Characteristics and Dimensions

Circuit Protectors

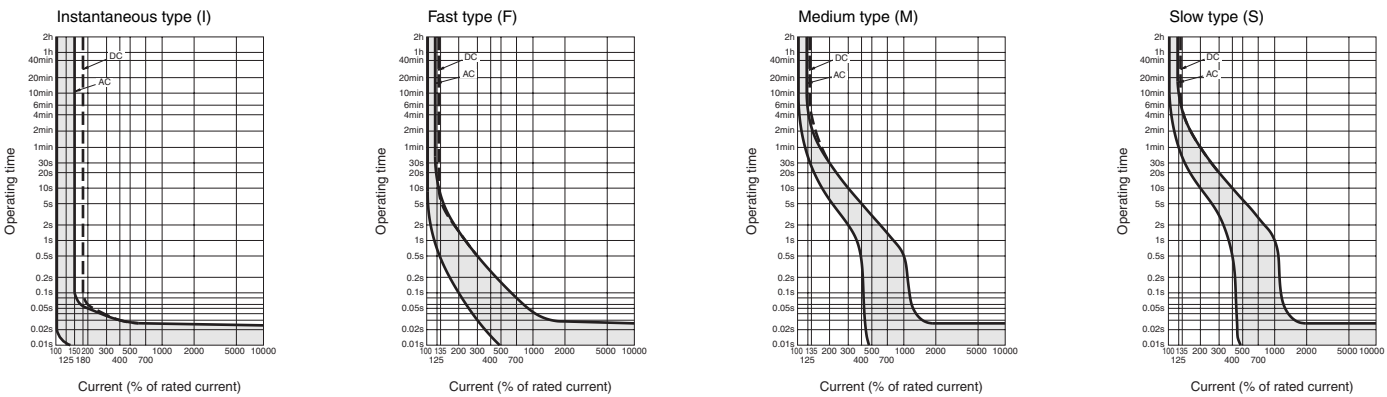
CP30-BA



Type CP30-BA

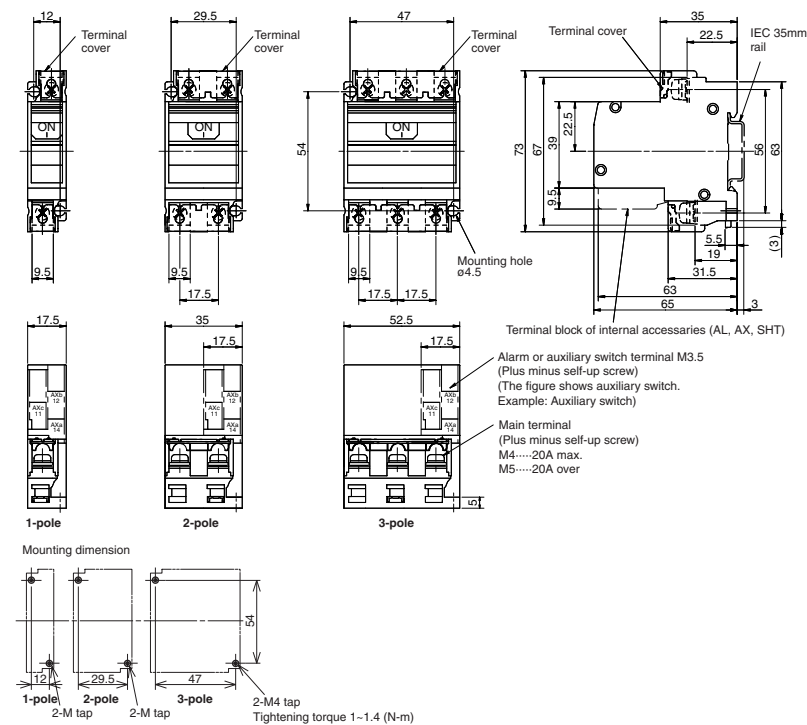
Frame (A)				30		
Type				CP30-BA		
Number of poles				1	2	3
Rated impulse withstand voltage Uimp (kV)				2.5		
Rated current (A)				0.1, 0.25, 0.3, 0.5, 1, 2, 3, 5, 7, 10,15, 20, 30		
Rated short-circuit capacity (kA)	UL 1077 CSA C22.2 No.235	Rated voltage (V)	AC (V)	250		
			DC (V)	65	125	—
		AC		2.5kA at 250V		
		DC		2.5kA at 65V	2.5kA at 125V	—
	IEC 60934 EN 60934 GB 17701 JIS C 4610	Rated insulation voltage Ui (V)		250		
		AC		2.5kA at 230V		
		DC		2.5kA at 60V	2.5kA at 120V	—
		EN 60947-2 IEC 60947-2 JIS C 8201-2-1 Annl (Icu/Ics)	Rated insulation voltage Ui (V)		250	
	AC		2.5/2.5kA at 230V			
	DC		2.5/2.5kA at 60V	2.5/2.5kA at 120V	—	
AC-DC common use				●		
Operating characteristics				Instantaneous type (I) Medium type (M),(MD) Slow type (S),(SD) Fast type (F)		
Mode of tripping				Instantaneous type (I): magnetic only Other type (M, MD, S, SD, F):hydraulic-magnetic		

Operating Characteristics

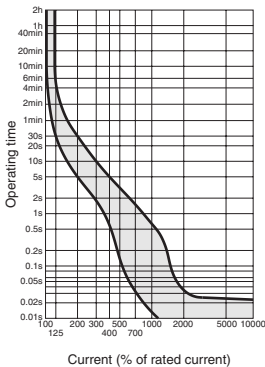


Outside Dimension Diagram

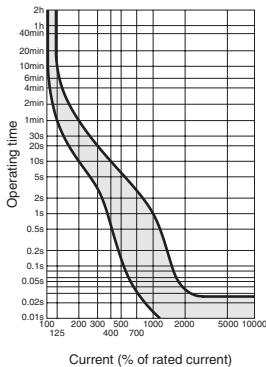
•CP30-BA



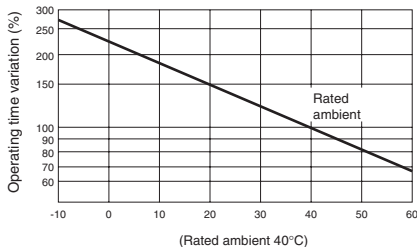
Medium type with inertial delay (MD)



Slow type with inertial delay (SD)



Temperature Characteristics



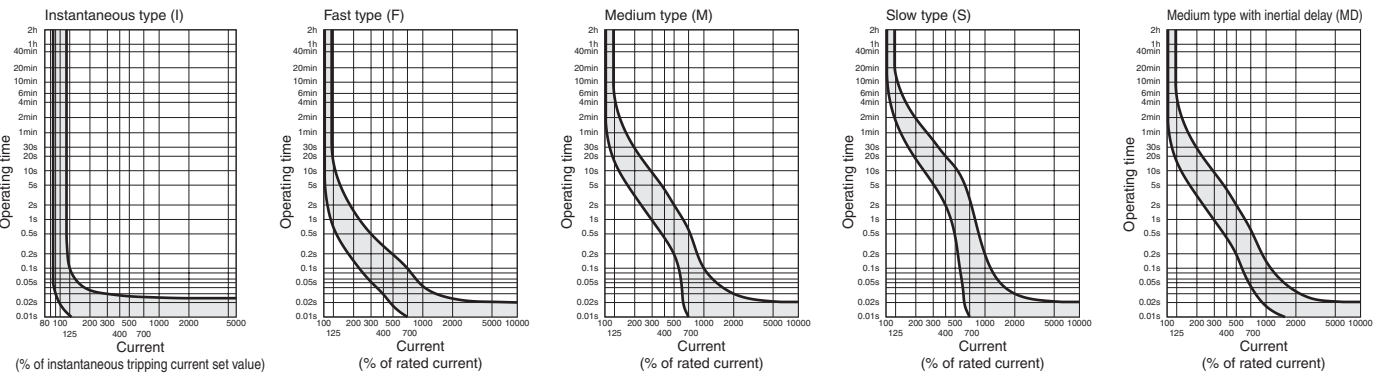
CP-S



Type CP-S

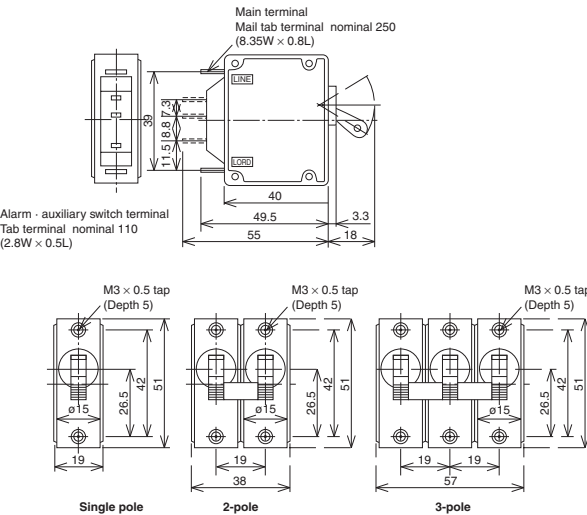
Frame (A)				30		
Type				CP-S		
Number of poles				1	2	3
Rated impulse withstand voltage Uimp (kV)				2.5		
Rated current (A)				0.05, 0.1, 0.25, 0.3, 0.5, 0.75 1, 2, 2.5, 3, 5, 7, 7.5, 10, 15, 20, 25, 30		
Rated short-circuit capacity (kA)	UL 1077	Rated voltage (V)	AC (V)	250	—	
			DC (V)	65	—	
		AC		1.5kA at 250V	—	
		DC		1kA at 65V	—	
	IEC 60934 EN 60934 (Icn)	Rated insulation voltage Ui (V)		250		
		AC		1.5kA at 230V, 2.5kA at 120V		
		DC		1kA at 60V	1kA at 120V (1kA at 60V)	1kA at 60V
	JIS C 4610 (Icn)	Rated insulation voltage Ui (V)		250		
		AC		1.5kA at 250V, 2.5kA at 125V		
DC		1kA at 65V	1kA at 125V (1kA at 65V)	1kA at 65V		
AC-DC common use				—		
Operating characteristics				Instantaneous type (I) Medium type (M),(MD) Slow type (S),(SD) Fast type (F),(FD)		
Mode of tripping				Instantaneous type (I): magnetic only Other type (M, MD, S, SD, F, FD):hydraulic-magnetic		

Operating Characteristics



Outside Dimension Diagram

- CP-S
- Series <With auxiliary switch (AX), With series alarm switch (AL)>
- Switch <With switch type auxiliary switch (AX)>



Temperature Characteristics

