

# 2. Detailed Specifications

## Molded-Case Circuit Breakers

Series	C Series		S Series		C Series		S Series		H Series		C Series		
Frame Size	30		32		63		63		63		125		
Image													
Type name	NF30-CS		NF32-SW		NF63-CW		NF63-SW		NF63-HW		NF125-CW		
Rated current in (Amp.)	3 5 10 15 20 30		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		50 (60) 63 (75) 80 100 125		
Rated ambient temperature (°C)	40		40		40		40		40		40		
Number of poles	2   3		2   3		2   3		2   3   4		2   3   4		2   3		
Rated insulation voltage Ui (V)	500		600		600		600		690		600		
Rated short-circuit breaking capacities (kA)	IEC 60947-2 (Icu/Ics)	AC (50/60Hz)	690V	-	-	-	-	-	-	2.5/1	-	-	
			525V	-	-	-	-	-	-	-	-	-	
			500V	-	2.5/1	2.5/1	2.5/1	7.5/4	7.5/4	7.5/4	7.5/4	7.5/4	
			440V	-	2.5/1	2.5/1	2.5/1	7.5/4	10/5	10/5	10/5		
			415V	1.5/1.5	2.5/1	2.5/1	2.5/1	7.5/4	10/5	10/5	10/5		
		400V	1.5/1.5	5/2	5/2	5/2	7.5/4	10/5	10/5	10/5			
		380V	1.5/1.5	5/2	5/2	5/2	7.5/4	10/5	10/5	10/5			
		230V	2.5/2 (240V)	7.5/4	7.5/4	7.5/4	15/8	25/13	30/15	30/15			
		DC	250V	-	2.5/1 (*4)	-	2.5/1 (*4)	-	7.5/4 (*4)	-	7.5/4 (*4)	-	7.5/4 (*1)
			300V	-	-	-	-	-	-	-	-	-	-
Suitability for isolation	↔		●		●		●		●		●		
Utilization category	A		A		A		A		A		A		
Reverse connection (terminals unmarked)	-		●		●		●		●		●		
Rated impulse withstand voltage Uimp (kV)	4		6		6		6		6		8		
Pollution degree	2		2		2		2		2		3		
Number of operating cycles	without current		10,000		10,000		10,000		15,000		15,000		
	with current		440V-In/2 6,000 (415V)		6,000		6,000		15,000		15,000		
Overall dimensions (mm)	without current		440V-In/2 6,000 (415V)		6,000		6,000		8,000		8,000		
	with current		690V-In/2 6,000 (415V)		6,000		6,000		8,000		8,000		
Overall dimensions (mm)	a		45	67.5	50	75	50	75	50	75	100	60	90
	b		96		130		130		130		130		
	c		52		68		68		68		68		
	ca		67		90		90		90		90		
	ca		67		90		90		90		90		
Mass of front-face type (kg)	0.25   0.35		0.4   0.55		0.45   0.6		0.45   0.6   0.7		0.45   0.6   0.7		0.65   0.9		
Installation and connections	Fixed	Front	Screw terminal	●	-	-	-	-	-	-	-	-	
			Solderless (box) terminal (SL)	-	-	-	-	-	-	-	-	-	
			Busbar terminal	-	-	-	-	-	-	-	-	-	
		Rear	(B)	●	●	●	●	●	●	●	●	●	●
			(PM)	-	-	-	-	-	-	-	-	-	-
Plug-in	Rear/front IP20	-	●	●	●	●	●	●	●	●	●		
	(PM-IP)	-	-	-	-	-	-	-	-	-	-		
IEC 35mm rail	Mounting hook (option)	-	●	●	●	●	●	●	●	●	●		
	Adapter (option)	-	-	-	-	-	-	-	-	-	-		
Cassette-type accessories (option) (*5)	Alarm switch	(AL)	●	●	●	●	●	●	●	●	●		
	Auxiliary switch	(AX)	●	●	●	●	●	●	●	●	●		
	Shunt trip	(SHT)	-	●	●	●	●	●	●	●	●		
	Undervoltage trip (UVT)	Non-Synchronous Closing (UVT-N)	-	●	●	●	●	●	●	●	●		
		Synchronous Closing (UVT-S)	-	-	-	-	-	-	-	-	-		
Accessories connection (option)	with Lead-wire terminal block	(SLT)	●	●	●	●	●	●	●	●	●		
	with Internal terminal type	(INT)	-	-	-	-	-	-	-	-	-		
	with Flying leads	-	●	●	●	●	●	●	●	●	●		
Built-in accessories (option)	Pre-alarm (contact output) (*3)	(PAL)	-	-	-	-	-	-	-	-	-		
	Overcurrent trip alarm (*3)	(OAL)	-	-	-	-	-	-	-	-	-		
External accessories (option)	Enclosure	Dustproof	(S)	●	●	●	●	●	●	●	●	●	
			(I)	-	-	-	-	-	-	-	-	-	
		Waterproof	(W)	-	-	●	-	●	-	●	-	●	
	Electrical operation device	(MD)	-	-	-	-	-	-	-	-	-	-	
		(MI)	-	●	●	●	●	●	●	●	●	●	
		(HL)	●	●	●	●	●	●	●	●	●	●	
	Handle lock device	Handle lock	(HL-S)	●	●	●	●	●	●	●	●	●	
			(LC)	●	●	●	●	●	●	●	●	●	
	External operating handle	Mounted on breaker	(F)	-	●	●	●	●	●	●	●	●	
			(V)	-	-	-	-	-	-	-	-	-	
		Door mounting	(S)	-	●	●	●	●	●	●	●	●	
			(BA-F)	-	●	●	●	●	●	●	●	●	
			(BA-G)	-	●	●	●	●	●	●	●	●	
	Insulating barrier	To ground	(TC-L)	●	●	●	●	●	●	●	●	●	
			(TC-S)	●	●	●	●	●	●	●	●	●	
Terminal cover		(TTC)	●	●	●	●	●	●	●	●	●		
Terminal cover	for rear connection	(BTC)	●	●	●	●	●	●	●	●	●		
		(PTC)	-	-	-	-	-	-	-	-	-		
	for plug-in	-	-	-	-	-	-	-	-	-	-		
Marine approval	L/R	(L/R)	●	●	●	●	●	●	●	●	●	●	
		(G/L)	-	-	-	-	-	-	-	-	-		
		(BV)	-	●	●	●	●	●	●	●	●		
		(DNV)	-	●	●	●	●	●	●	●	●		
		(ABS)	●	●	●	●	●	●	●	●	●		
Automatic tripping device	Hydraulic-magnetic		Hydraulic-magnetic		Hydraulic-magnetic		Hydraulic-magnetic		Hydraulic-magnetic		Thermal-magnetic		
Trip button	-		Equipped		Equipped		Equipped		Equipped		Equipped		

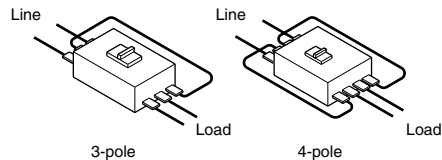
Note (\*1) Use two poles for three- and four-pole products. If wired as shown on the right, three and four poles can be used for up to 400VDC and 500VDC, respectively.

(\*2) Use two poles for three- and four-pole products. If wired as shown on the right, three and four poles can be used for up to 500VDC and 600VDC, respectively.

(\*3) PAL and OAL are not available together. Only one can be specified.

(\*4) Specify if for DC use.

(\*5) Cassette-type accessories are not compatible with NF30-CS.





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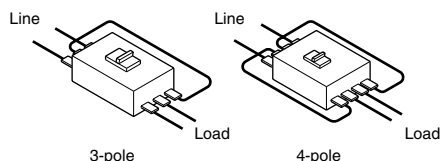
## Molded-Case Circuit Breakers

Series		S Series						H Series									
Frame Size		160						160									
Image																	
Type name		NF160-SW		NF160-SGW RT		NF160-SGW RE		NF160-HW		NF160-HGW RT		NF160-HGW RE					
Rated current In (Amp.)		125 150 160		125-160		80-160		125 150 160		125-160		80-160					
Rated ambient temperature (°C)		40		40		40		40		40		40					
Number of poles		2 3 4		2 3 4		3 4		2 3 4		2 3 4		3 4					
Rated insulation voltage Ui (V)		690		690		690		690		690		690					
Rated short-circuit breaking capacities (kA)	IEC 60947-2 (Icu/Ics)	AC (50/60Hz)	690V	-	8/8	8/8	5/3	20/20	20/20								
			525V	-	22/22	22/22	-	35/35	35/35								
			500V	15/8	30/30	30/30	30/8	50/50	50/50								
			440V	25/13	36/36	36/36	50/13	65/65	65/65								
			415V	30/15	36/36	36/36	50/13	70/70	70/70								
			400V	30/15	36/36	36/36	50/13	75/75	75/75								
			380V	30/15	36/36	36/36	50/13	75/75	75/75								
			230V	50/25	85/85	85/85	100/25	100/100	100/100								
			DC	250V	15/8 (*1)	-	-	40/20 (*1)	-	-							
			300V	-	20/20 (*2)	-	-	40/40 (*2)	-	-							
Suitability for isolation		●		●		●		●		●		●					
Utilization category		A		A		A		A		A		A					
Reverse connection (terminals unmarked)		●		●		●		●		●		●					
Rated impulse withstand voltage Uimp (kV)		6		8		8		6		8		8					
Pollution degree		2		3		3		2		3		3					
Number of operating cycles		without current		12,000		40,000		40,000		12,000		40,000		40,000			
		with current		440V-In/2		4,000		30,000		30,000		4,000		30,000		30,000	
				440V-In		4,000		20,000		20,000		4,000		20,000		20,000	
				690V-In/2		-		1,000		1,000		1,000		1,000		1,000	
				690V-In		-		1,000		1,000		1,000		1,000		1,000	
Overall dimensions (mm)		a		105 140		105 140		105 140		105 140		105 140		105 140			
		b		165		165		165		165		165		165			
		c		68		86		86		68		86		86			
		ca		92		110		110		92		110		110			
		Mass of front-face type (kg)		1.3 1.5 1.9		2.0 2.6		2.0 2.6		1.3 1.5 1.9		2.0 2.6		2.0 2.6			
Installation and connections		Fixed		Front		Screw terminal		●		●		●		●			
				Solderless (box) terminal (SL)		●		●		●		●		●			
				Busbar terminal		-		-		-		-		-			
		Plug-in		Rear (B)		●		●		●		●		●			
				Rear (PM)		●		●		●		●		●			
				Rear/front IP20 (PM-IP)		●		●		●		●		●			
IEC 35mm rail		Mounting hook (option)		-		-		-		-		-					
		Adapter (option)		-		-		-		-		-					
Cassette-type accessories (option)		Alarm switch (AL)		●		●		●		●		●					
		Auxiliary switch (AX)		●		●		●		●		●					
		Shunt trip (SHT)		●		●		●		●		●					
		Undervoltage trip (UVT)		Non-Synchronous Closing (UVT-N)		●		●		●		●		●			
Synchronous Closing (UVT-S)				-		-		-		-		-					
Accessories' connection (option)		with Lead-wire terminal block (SLT)		●		●		●		●		●					
		with Internal terminal type (INT)		●		●		●		●		●					
		with Flying leads		●		●		●		●		●					
Built-in accessories (option)		Pre-alarm (contact output) (*3) (PAL)		-		-		-		-		●					
		Overcurrent trip alarm (*3) (OAL)		-		-		-		-		●					
External accessories (option)		Enclosure		Dustproof (S)		●		-		-		-		-			
				(I)		●		-		-		-		-			
				(W)		●		-		-		-		-			
		Electrical operation device		(MD)		●		●		●		●		●			
				(MI)		●		●		●		●		●			
				(HL)		●		●		●		●		●			
		Handle lock device		Handle lock (HL-S)		●		●		●		●		●			
				(LC)		●		●		●		●		●			
		External operating handle		Mounted on breaker (F)		●		●		●		●		●			
				Door mounting (V)		●		●		●		●		●			
				(S)		●		●		●		●		●			
		Insulating barrier		Between phase (BA-F)		●		●		●		●		●			
				To ground (BA-G)		●		-		-		-		-			
				Large (TC-L)		●		●		●		●		●			
		Terminal cover		Small (TC-S)		●		●		●		●		●			
Transparent (TTC)				●		●		●		●		●					
for rear connection (BTC)				●		●		●		●		●					
for plug-in (PTC)				●		●		●		●		●					
Marine approval		L/R		-		-		-		-		-					
		G/L		-		-		-		-		-					
		BV		-		-		-		-		-					
		DNV		-		-		-		-		-					
		ABS		-		-		-		-		-					
Automatic tripping device		Thermal-magnetic		Thermal-magnetic		Electronic		Thermal-magnetic		Thermal-magnetic		Electronic					
Trip button		Equipped		Equipped		Equipped		Equipped		Equipped		Equipped					

Note (\*1) Use two poles for three- and four-pole products. If wired as shown on the right, three and four poles can be used for up to 400VDC and 500VDC, respectively.

(\*2) Use two poles for three- and four-pole products. If wired as shown on the right, three and four poles can be used for up to 500VDC and 600VDC, respectively.

(\*3) PAL and OAL are not available together. Only one can be specified.



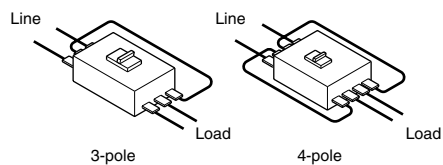


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## Molded-Case Circuit Breakers

Series		C Series		S Series			H Series						
Frame Size		400		400			400	400					
Image													
Type name		NF400-CW		NF400-SW			NF400-SEW	NF400-HEW	NF400-REW				
Rated current In (Amp.)		250 300 350 400		250 300 350 400			200~400 adjustable	200~400 adjustable	200~400 adjustable				
Rated ambient temperature (°C)		40		40			40	40	40				
Number of poles		2 3		2 3 4			3 4	3 4	3				
Rated insulation voltage Ui (V)		690		690			690	690	690				
Rated short-circuit breaking capacities (kA)	IEC 60947-2 (Icu/Ics)	AC (50/60Hz)	690V	-		10/10(5/5) (*1)		10/10(5/5) (*1)		35/18			
			500V	15/8		30/30(25/25) (*1)		30/30(25/25) (*1)		50/50			
			440V	25/13		42/42(36/36) (*1)		42/42(36/36) (*1)		65/65			
			415V	36/18		45/45(36/36) (*1)		50/50(36/36) (*1)		70/70			
			400V	36/18		45/45(36/36) (*1)		50/50(36/36) (*1)		70/70			
			380V	40/20		50/50(42/42) (*1)		50/50(42/42) (*1)		70/70			
			230V	50/25		85/85(65/65) (*1)		85/85(65/65) (*1)		100/100			
		DC	250V		20/10 *4		40/40 *4		-				
Suitability for isolation		●		●			●	●	●				
Utilization category		A		A			B	B	B				
Rated short-time withstand current Icw (kA)		-		-			5	5	5				
Reverse connection (terminals unmarked)		●		●			●	●	●				
Rated impulse withstand voltage Uimp (kV)		8		8			8	8	8				
Pollution degree		3		3			3	3	3				
Overall dimensions (mm)													
		a		140		140 185		140 185		140			
		b		257		257		257		257			
		c		103		103		103		103			
		ca		134		155		155		155			
Mass of front-face type (kg)		4.4 5.0		4.6 5.2 6.8			6.0 7.6		6.0 7.6		6.0		
Installation and connections	Fixed	Front	Screw terminal	-		-			-		-		
			Solderless (box) terminal (SL)	●		●			●		●		
			Busbar terminal	●		●			●		●		
			Rear (B)	●		●			●		●		
Plug-in	Rear	PM (PM)	●		●			●		●			
		PM-IP (PM-IP)	-		-			-		-			
Cassette-type accessories (option)	Alarm switch	AL (AL)	●		●			●		●			
		Auxiliary switch	●		●			●		●			
		Shunt trip	●		●			●		●			
		Undervoltage trip (UVT)	●		●			●		●			
Accessories' connection (option)	with Lead-wire terminal block	SLT (SLT)	●		●			●		●			
		with Internal terminal type	-		-			-		-			
		with Flying leads	●		●			●		●			
Built-in accessories (option)	Pre-alarm (contact output) (*3)	PAL (PAL)	-		-			● (*2)		● (*2)			
		Overcurrent trip alarm (*3)	-		-			-		-			
External accessories (option)	Enclosure	Dustproof	(S)	-		-			-		-		
			(I)	●		●			●		●		
			(W)	●		●			●		●		
	Electrical operation device	Motor-operated type	(MD)	●		●			●		●		
			Spring-charge type	●		●			●		●		
	Mechanical interlock	Handle lock device	(MI)	●		●			●		●		
			(HL)	●		●			●		●		
			(HL-S)	●		●			●		●		
	Lock cover	Mounted on breaker	(F)	●		●			●		●		
			Door mounting	●		●			●		●		
			(S)	●		●			●		●		
			(V)	●		●			●		●		
	Insulating barrier	Between phase	(BA-F)	●		●			●		●		
			To ground	●		●			●		●		
(BA-G)			●		●			●		●			
Terminal cover	Large	(TC-L)	●		●			●		●			
		Small	-		-			-		-			
		(TC-S)	-		-			-		-			
		Transparent	●		●			●		●			
Marine approval	L/R	(L/R)	●		●			●		●			
		(G/L)	●		●			●		●			
Automatic tripping device	Trip button	Thermal-magnetic	Thermal-magnetic		Thermal-magnetic			Electronic		Electronic		Electronic	
			Equipped		Equipped			Equipped		Equipped		Equipped	
			-		-			-		-		-	
			-		-			-		-		-	

- Note (\*1) In case of solderless terminal, breaking capacity decreases to ( / ).  
 (\*2) Solid state relay output is option. Please specify if other output is necessary. (Standard type is with SLT equipped.)  
 (\*3) PAL and OAL are not available together. Only one can be specified.  
 (\*4) Use two poles for three- and four-pole products. If wired as shown on the right, three and four poles can be used for up to 400VDC and 500VDC, respectively.





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## Molded-Case Circuit Breakers

Series			C Series	S Series	H Series					
Frame Size			800	800	800					
Image										
Type name			NF800-CEW	NF800-SDW	NF800-SEW	NF800-HEW	NF800-REW			
Rated current In (Amp.)			400-800 adjustable	(700) 800	400-800 adjustable	400-800 adjustable	400-800 adjustable			
Rated ambient temperature (°C)			40	40	40	40	40			
Number of poles			3	2	3   4	3   4	3			
Rated insulation voltage Ui (V)			690	-	690	690	690			
Rated short-circuit breaking capacities (kA)	IEC 60947-2 (Icu/Ics)	AC (50/60Hz)	690V	-	-	10/10	15/15	-		
			500V	18/9	-	30/30	50/50	70/35		
			440V	36/18	-	42/42	65/65	125/63		
		415V	36/18	-	50/50	70/70	125/63			
		400V	36/18	-	50/50	70/70	125/63			
		380V	40/20	-	50/50	70/70	125/63			
		230V	50/25	-	85/85	100/100	150/75			
DC			250V	-	40/40 (*3)	-	-			
Suitability for isolation $\rightarrow$ *			●	●	●	●	●			
Utilization category			B	A	B	B	B			
Rated short-time withstand current low (kA)			9.6	-	9.6	9.6	9.6			
Reverse connection (terminals unmarked)			●	●	●	●	●			
Rated impulse withstand voltage Uimp (kV)			8	8	8	8	8			
Pollution degree			3	3	3	3	3			
Overall dimensions (mm)					a	210	210	210   280	210	210
			b	275	275	275	275	275		
			c	103	103	103	103	103		
			ca	155	155	155	155	155		
			Mass of front-face type (kg)	10.9	9	10.9   14.2	10.9   14.2	10.9		
Installation and connections	Fixed	Front	Screw terminal	●	●	●	●	●		
			Solderless (box) terminal (SL)	●	●	●	●	●		
	Plug-in	Rear	Busbar terminal	●	●	●	●	●		
			(B)	●	●	●	●	●		
Rear/front IP20	(PM)	●	●	●	●	●				
	(PM-IP)	-	-	-	-	-				
Cassette-type accessories (option) (*4)	Alarm switch		(AL)	●	●	●	●	●		
	Auxiliary switch		(AX)	●	●	●	●	●		
	Shunt trip		(SHT)	●	●	●	●	●		
	Undervoltage trip (UVT)	Non-Synchronous Closing (UVT-N)	●	●	●	●	●			
Synchronous Closing (UVT-S)		●	●	●	●	●				
Accessory's connection (option)	with Lead-wire terminal block		(SLT)	●	●	●	●			
	with Internal terminal type		(INT)	-	-	-	-			
	with Flying leads		-	●	●	●	●			
Built-in accessories (option)	Pre-alarm (contact output) (*2)		● (*1)	-	● (*1)	● (*1)	● (*1)			
	Overcurrent trip alarm (*2)		(OAL)	-	-	-	-			
External accessories (option)	Enclosure	Dustproof	(S)	-	-	-	-			
			(I)	●	●	●   -	-			
			(W)	●	●	●   -	-			
	Electrical operation device	Motor-operated type	(MD)	●	●	●	●			
			Spring-charge type	(MDS)	●	●	●	●		
	Mechanical interlock	Handle lock device	(MI)	●	●	●	●			
			(HL)	●	●	●	●			
			(HL-S)	●	●	●	●			
	Lock cover	Handle lock	(LC)	-	-	-	-			
			(F)	●	●	●	●			
	External operating handle	Mounted on breaker	(V)	●	●	●	●			
			(S)	●	●	●	●			
	Insulating barrier	Between phase	(BA-F)	●	●	●	●			
			To ground	(BA-G)	●	●	●	●		
			(TC-L)	●	●	●	●			
	Terminal cover	Large	(TC-S)	-	-	-	-			
(TC-L)			●	●	●	●				
Small		(TTC)	●	●	●	●				
		Transparent for rear connection	(BTC)	●	●	●	●			
Transparent for plug-in	(PTC)	-	-	-	-					
	Marine approval	L/R	(L/R)	●	-	●   -	●   -			
(G/L)			●	-	●   -	●   -				
(BV)			●	-	●   -	●   -				
(DNV)			●	-	●   -	●   -				
(ABS)			●	-	●   -	●   -				
Automatic tripping device			Electronic	Thermal-magnetic	Electronic	Electronic	Electronic			
Trip button			Equipped	Equipped	Equipped	Equipped	Equipped			

Note (\*1) Solid state relay output is option. Please specify if other output is necessary. (Standard type is with SLT equipped.)  
 (\*2) PAL and OAL are not available together. Only one can be specified.  
 (\*3) Specify if for DC use.  
 (\*4) Cassette-type accessories are not compatible with NF1000-SW, NF1250-SW, NF1250-SDW, NF1600-SW, and NF1600-SDW.





# 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

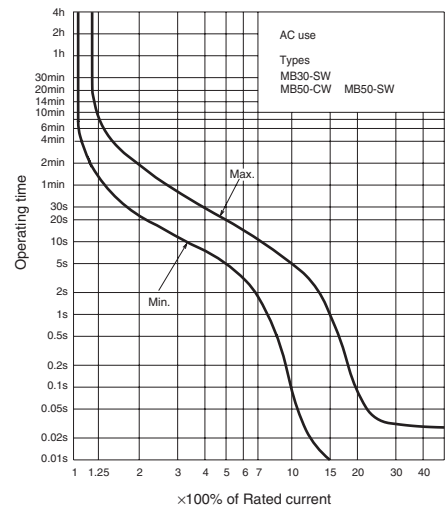
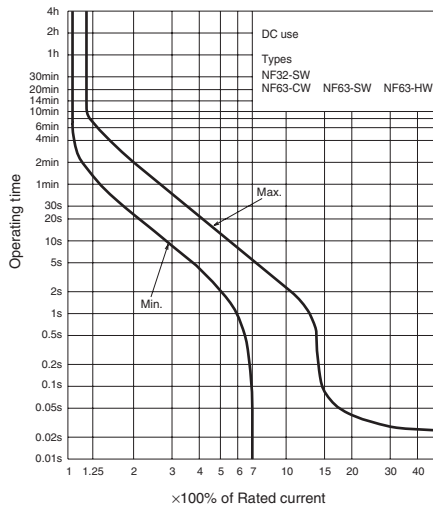
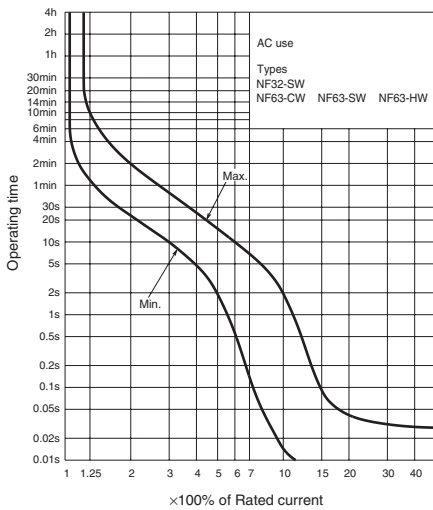


Type NF63-SW

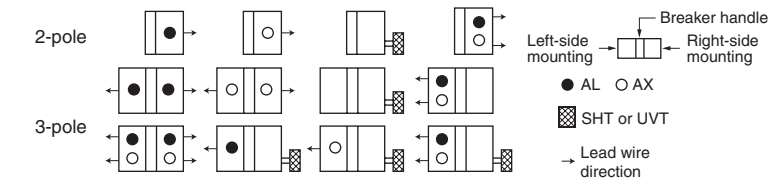
Type name	NF32-SW	NF63-CW	NF63-SW	NF63-HW	MB30-SW	MB50-CW	MB50-SW			
Rated current In (Amp.)	3 4 (5) 6 10 (15) 16 20 25 (30) 32	3 4 (5) 6 10 (15) 16 20 25 (30) 32 40 50 (60) 63	3 4 (5) 6 10 (15) 16 20 25 (30) 32 40 50 (60) 63	10 (15) 16 20 25 (30) 32 40 50 (60) 63	0.8 1.2 1.4 2 2.5 4 5 7.1 8 10 12 16 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	—
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

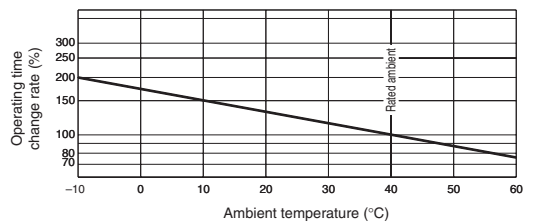


### Internal Accessories



Remark: 1. Refer to page 48.

### Temperature Characteristics

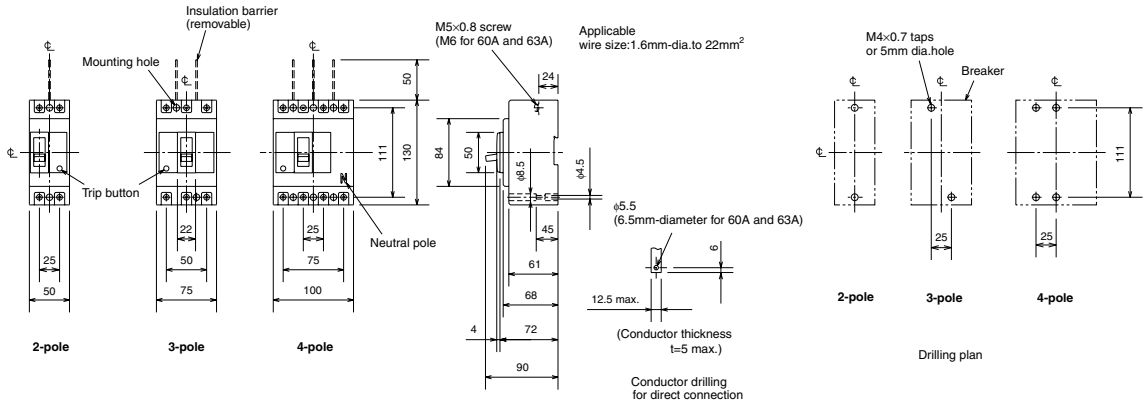


### External Accessories

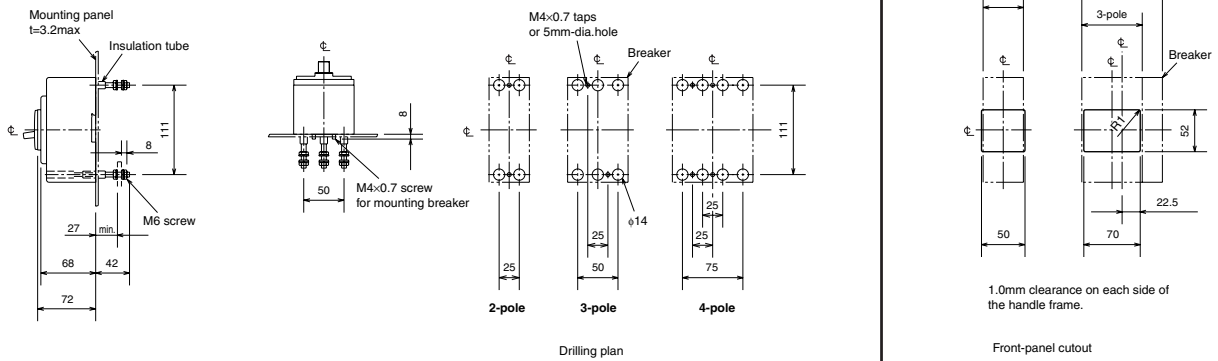
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-05S (*1)	61	Mechanical interlock	MI MI-05SW3 (*1)	79
	V V-05S	64		Terminal cover	Small TC-S TCS-05SW3W (*1)
	S S05SW	68	Large TC-L TCL-05SW3W (*1)		
Handle lock device	(*2) HLF-05SW	80	Skeleton TTC TTC-05SW3 (*1)		
	HL 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.

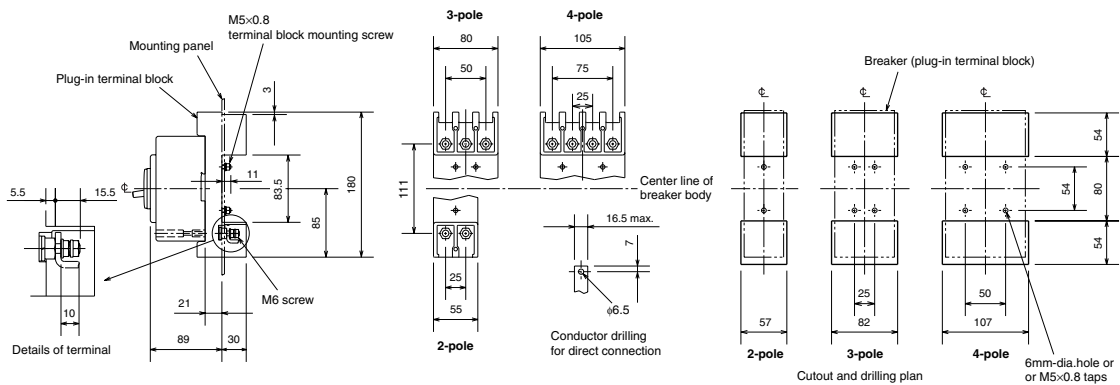
## Front connection



## Rear connection



## Plug-in



# 6. Characteristics and Dimensions

## Molded-Case Circuit Breakers and Motor Breakers

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



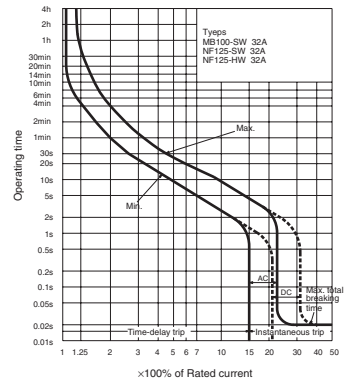
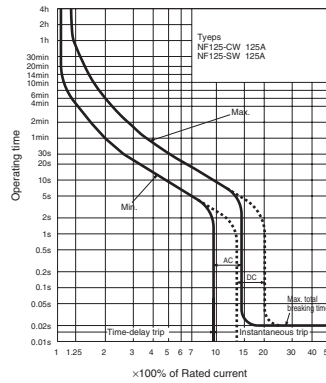
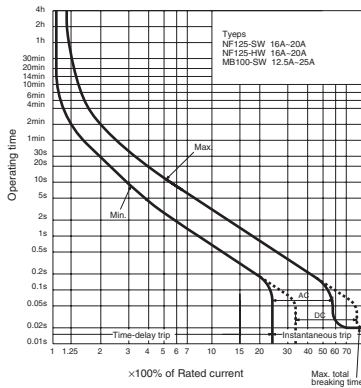
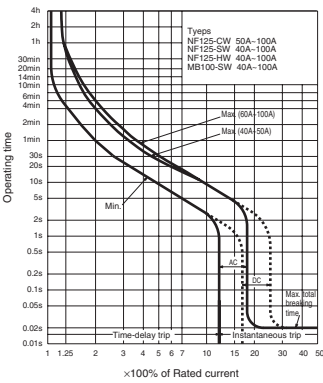
Type NF125-SW

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			2 3 4			3				
Rated insulation voltage Ui (V)		600			690			690			500				
Rated short-circuit breaking 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		
		DC (*1)	230V	30/15			50/25			100/50			50/25		
			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.

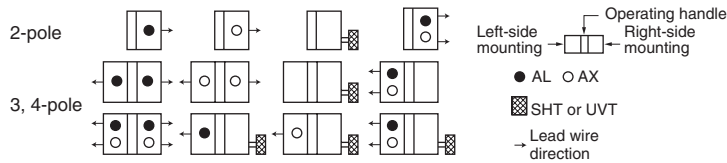
(\*2) These are supplied with NF125-SW, NF125-HW, and MB100-SW models.

### Operating Characteristics



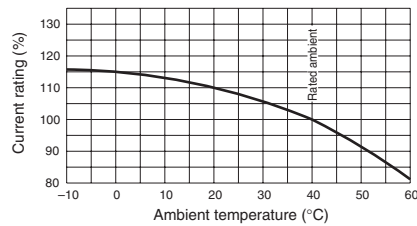
Remark: 1. Only AC characteristics are available for the model MB100-SW.

### Internal Accessories



Remark: 1. Refer to page 48.

### Ambient Compensating Curve



### External Accessories

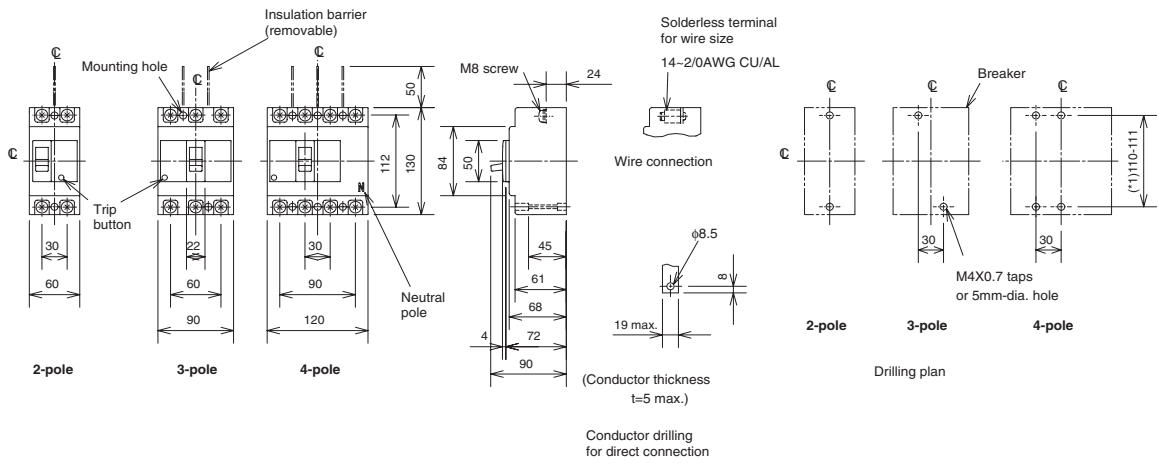
Accessories		Type name	Reference page	Accessories		Type name	Reference page	
Operating handle	F	F-1S (*1)	61	Mechanical interlock	MI	MI-05SW3 (*1)	79	
	V	V-1S	64		Terminal cover	Small	TC-S	TCS-1SW3W (*1)
	S	S1SW	68	Large		TC-L	TCL-1SW3W (*1)	
Handle lock device	LC	LC-1SW	80	Skeleton		TTC	TTC-1SW3 (*1)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

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

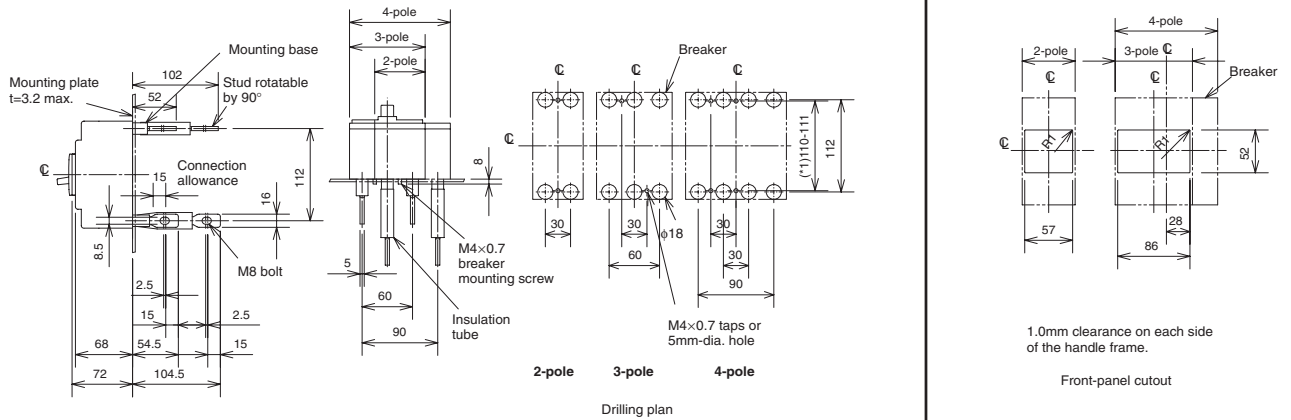
(\*2) Specify the working voltage. An order should be placed at the same time as an order of circuit breaker main body.

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

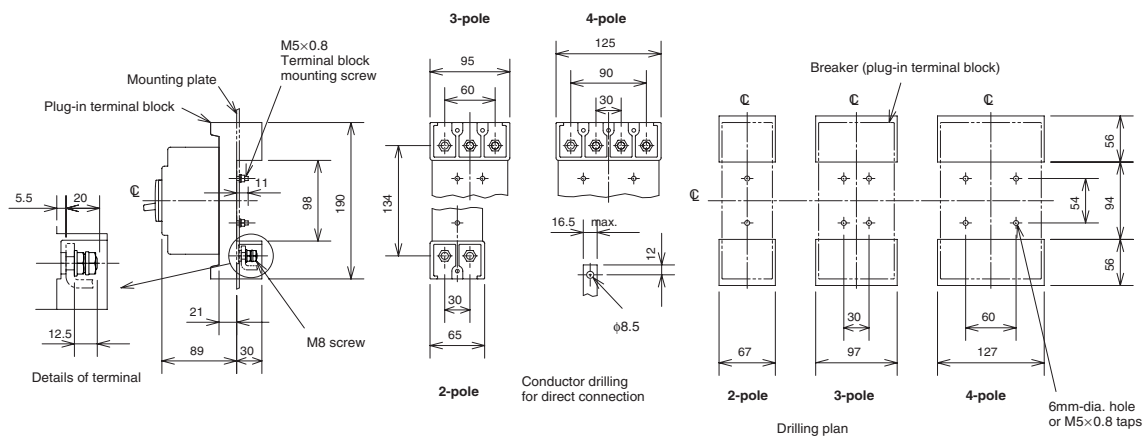
## Front connection



## 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

### NF400-CW NF400-SW

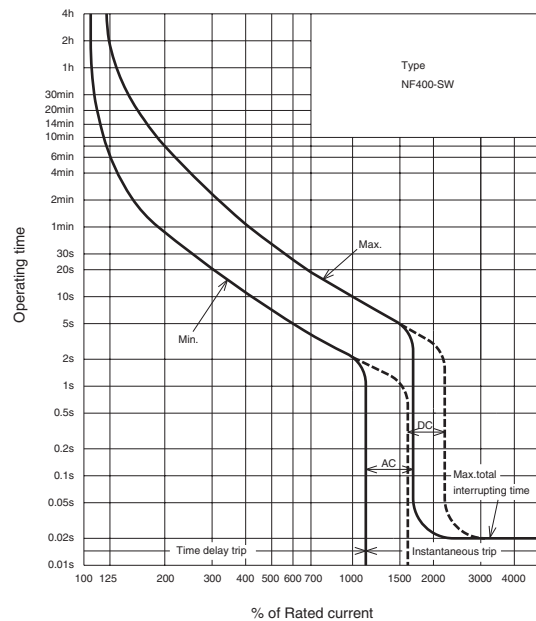
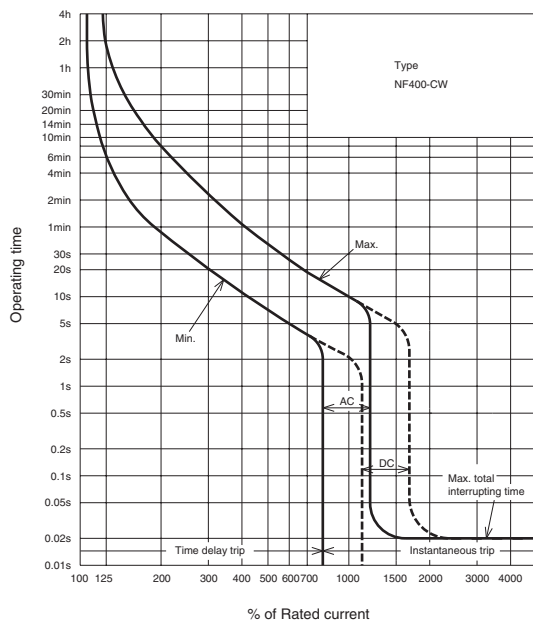


Type NF400-SW

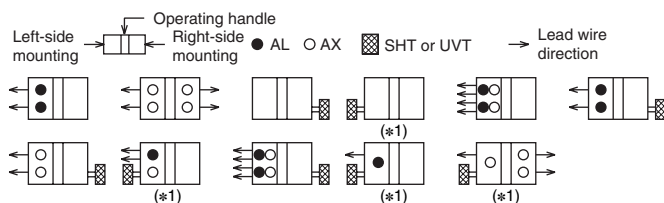
Type name		NF400-CW			NF400-SW	
Rated current In (Amp.)		250	300	350	400	
Number of poles		2	3	2	3	4
Rated insulation voltage Ui (V)		690			690	
Rated short-circuit breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	AC	690V	10/10		
			500V	30/30		
			440V	42/42		
		DC(*1)	400V	45/45		
			230V	85/85		
			250V	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

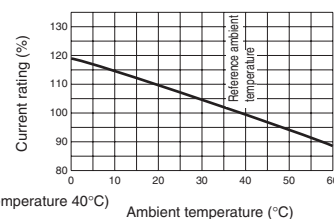


### Internal Accessories



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



(Reference ambient temperature 40°C)

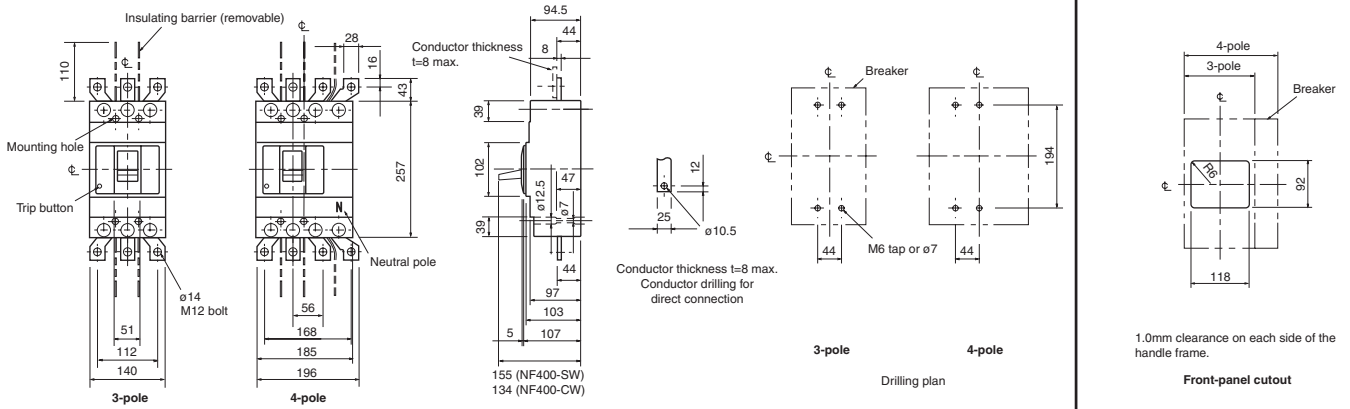
### External Accessories

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

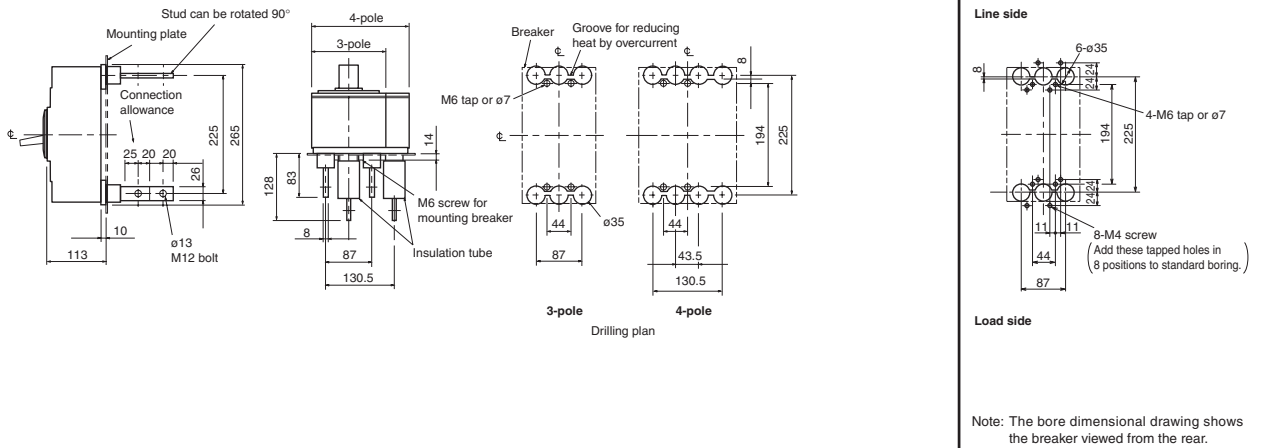
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	terminal cover	Large (TC-L)	TCL-4SW3 (*1)
	V V-4S	65		Skeleton (TTC)	TTC-4SW3 (*1)
	S S4CW, S4SW	68		Rear (BTC)	BTC-4SW3 (*1)
Mechanical interlock (MI)	MI-4SW3 (*1)	79	Handle lock device	HL	HL-4CW, HL-4SW
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.

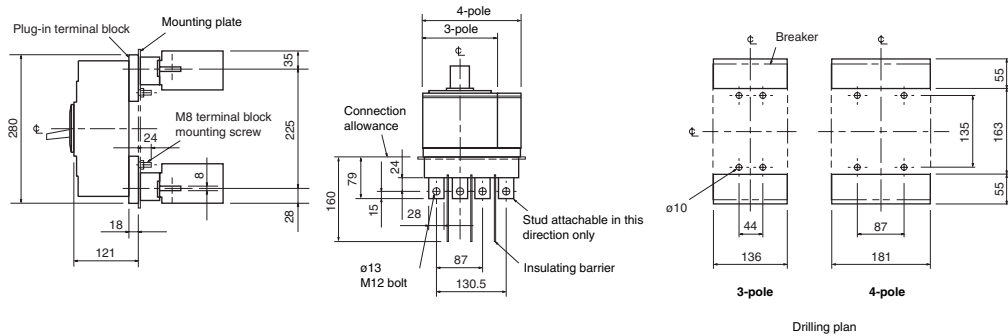
## Front connection



## 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

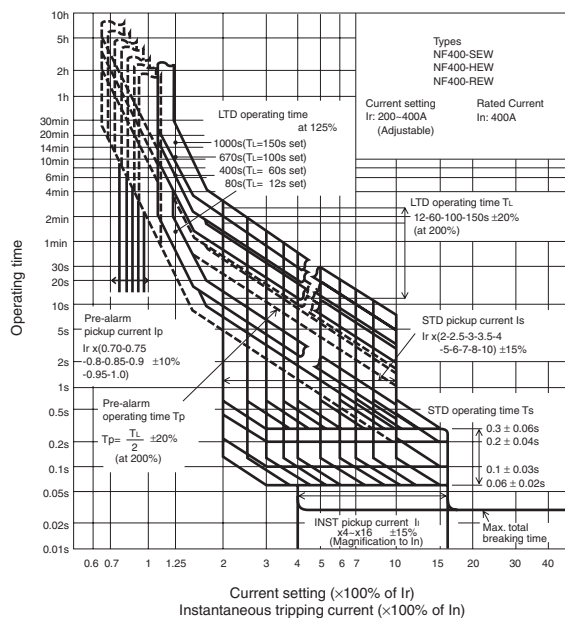
NF400-SEW  
NF400-HEW  
NF400-REW



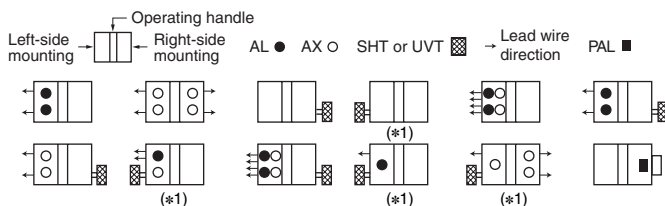
Type NF400-SEW

Type name	NF400-SEW	NF400-HEW	NF400-REW			
Rated current $I_n$ (Amp.)	200-400 adjustable					
Number of poles	3	4	3			
Rated insulation voltage $U_i$ (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

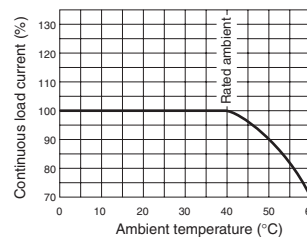


### Internal Accessories



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

### Temperature Characteristics



### External Accessories

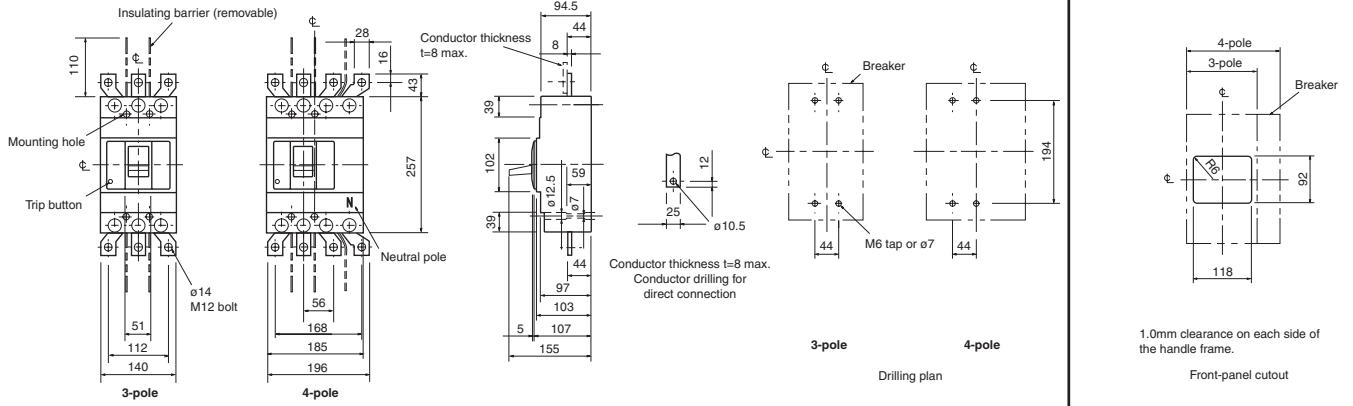
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Terminal cover	Large (TC-L) TCL-4SW3 (*) (*2)	70
	V V-4S	65		Skeleton (TTC) TTC-4SW3 (*2)	
	S S4SW	68		Rear (BTC) BTC-4SW3 (*) (*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

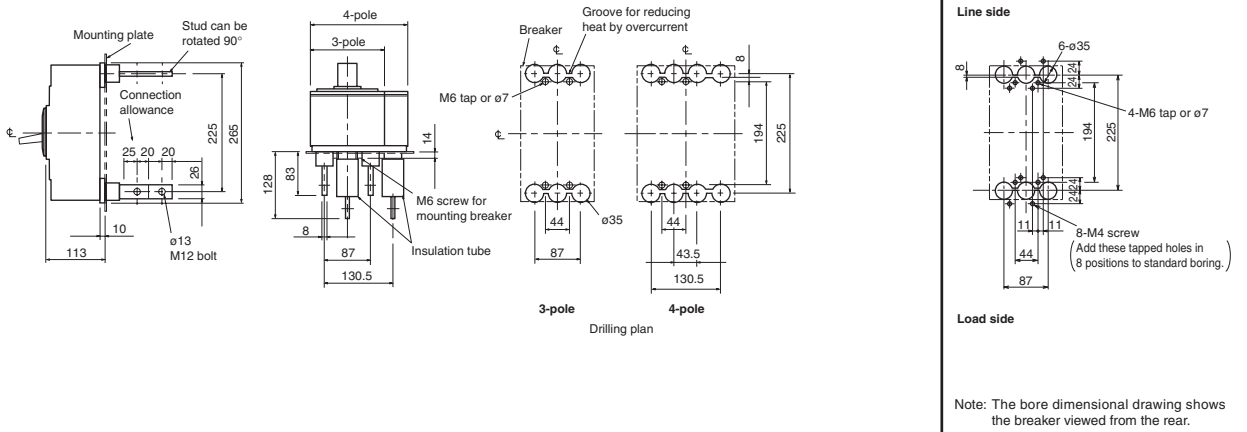
Note (\*) This is for NF400-SEW.

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

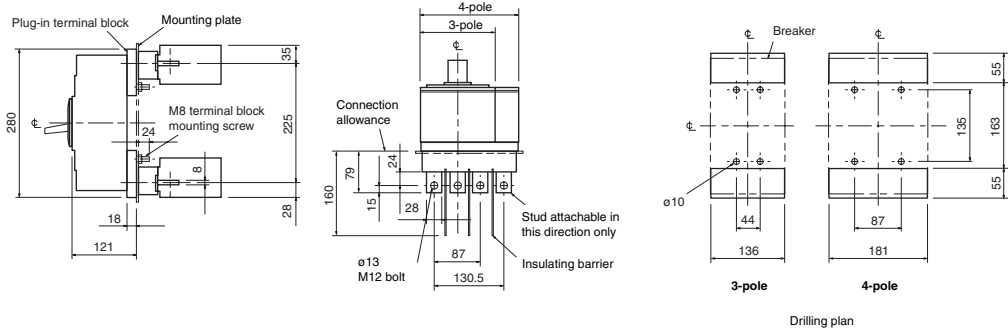
## Front connection



## Rear connection



## Plug-in





# 6. Characteristics and Dimensions

## Molded-Case Circuit Breakers

NF630-CW  
NF630-SW

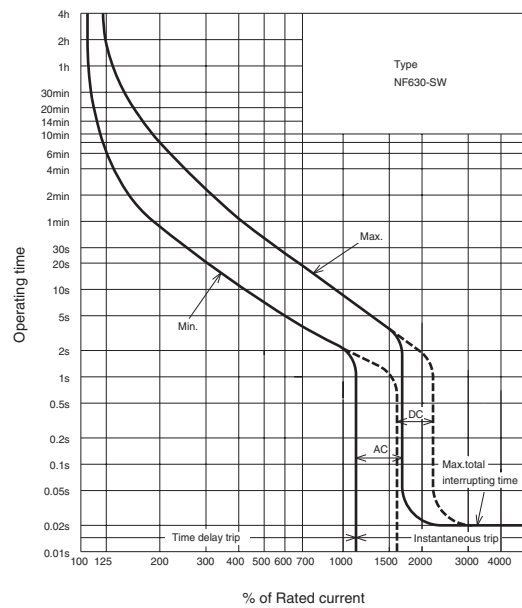
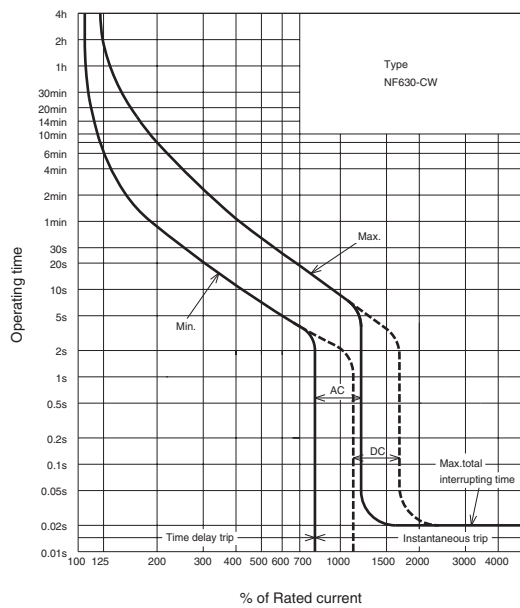


Type NF630-SW

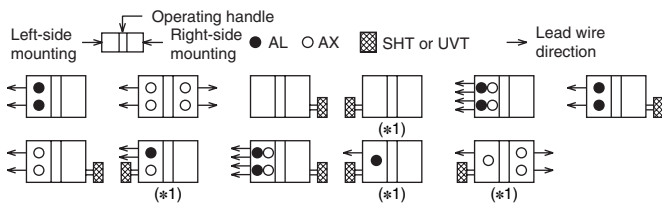
Type name		NF630-CW			NF630-SW		
Rated current In (Amp.)		500 600 630					
Number of poles		2	3	2	3	4	
Retard insulation voltage Ui (V)		690			690		
Rated short-circuit breaking capacity (kA)	IEC 60947-2 AC (Icu/Ics)	AC	690V	-		10/10	
			500V	18/9		30/30	
			440V	36/18		42/42	
			400V	36/18		50/50	
			230V	50/25		85/85	
Standard Attached Parts (4-pole models are provided with auxiliary handle.)		DC (*1)	250V		40/40		
		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

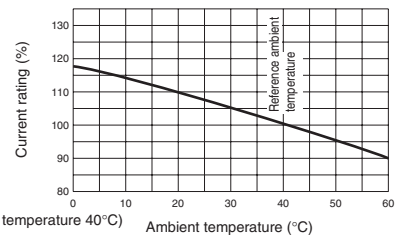


### Internal Accessories



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)

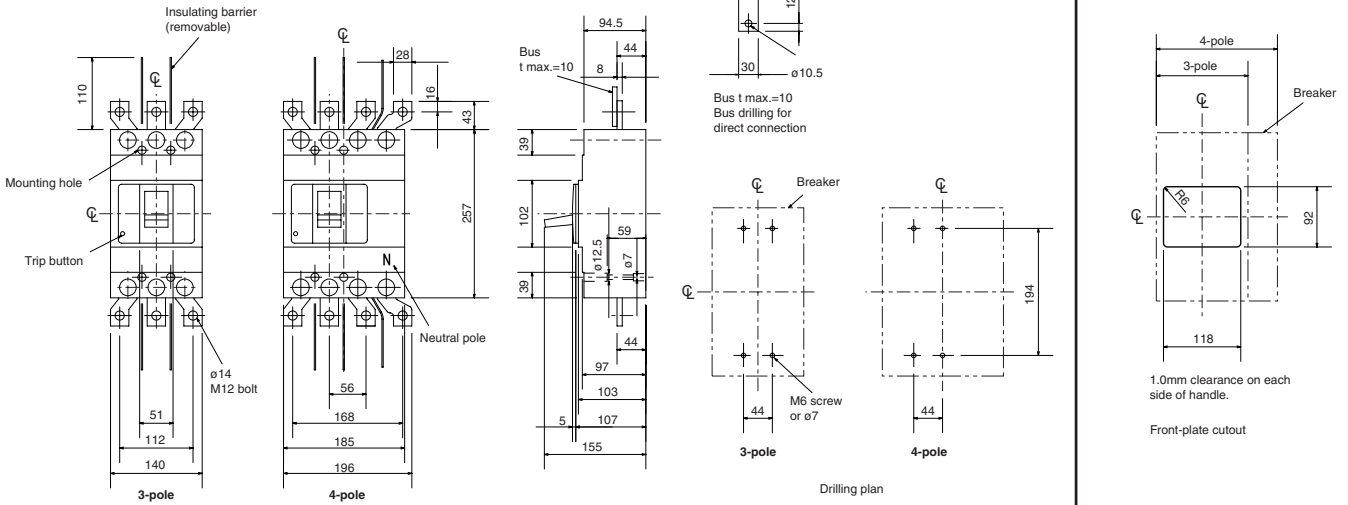
### External Accessories

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

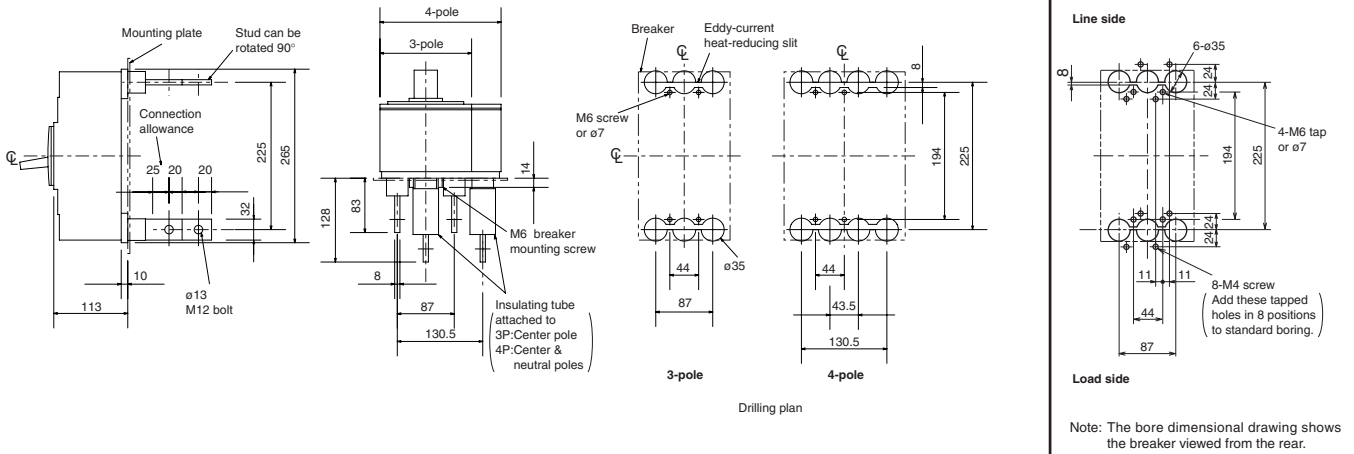
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Terminal cover	Large (TC-L)	TCL-4SW3 (*1)
	V V-4S	65		Skeleton (TTC)	TTC-4SW3 (*1)
	S S4SW	68		Rear (BTC)	BTC-4SW3 (*1)
Mechanical interlock (MI)	MI-4SW3 (*1)	79	Handle lock device	HL	HL-4SW
Auxiliary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

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

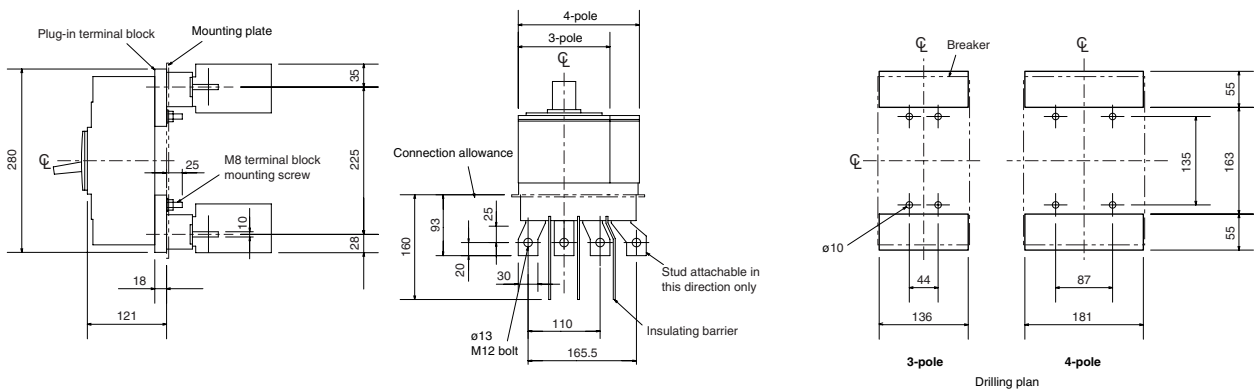
## Front connection



## 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

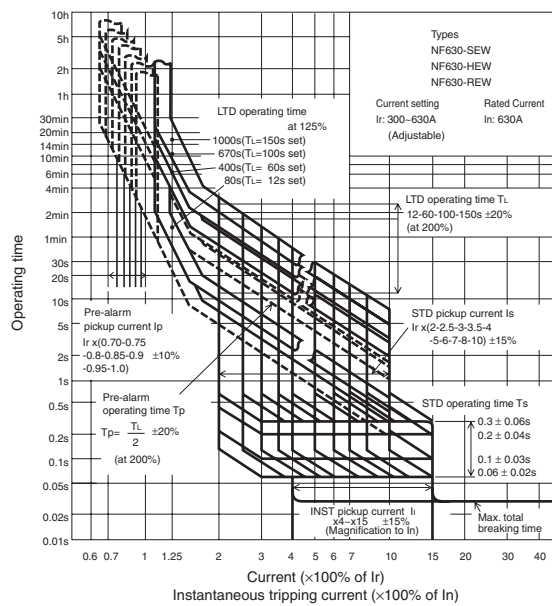
NF630-SEW  
NF630-HEW  
NF630-REW



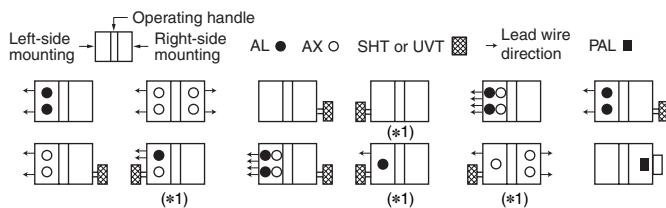
Type NF630-SEW

Type name		NF630-SEW	NF630-HEW	NF630-REW		
Rated current $I_n$ (Amp.)		300-630 adjustable				
Number of poles		3	4	3		
Rated insulation voltage $U_i$ (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)			

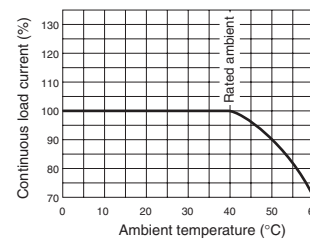
### Operating Characteristics



### Internal Accessories



### Temperature Characteristics



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

### External Accessories

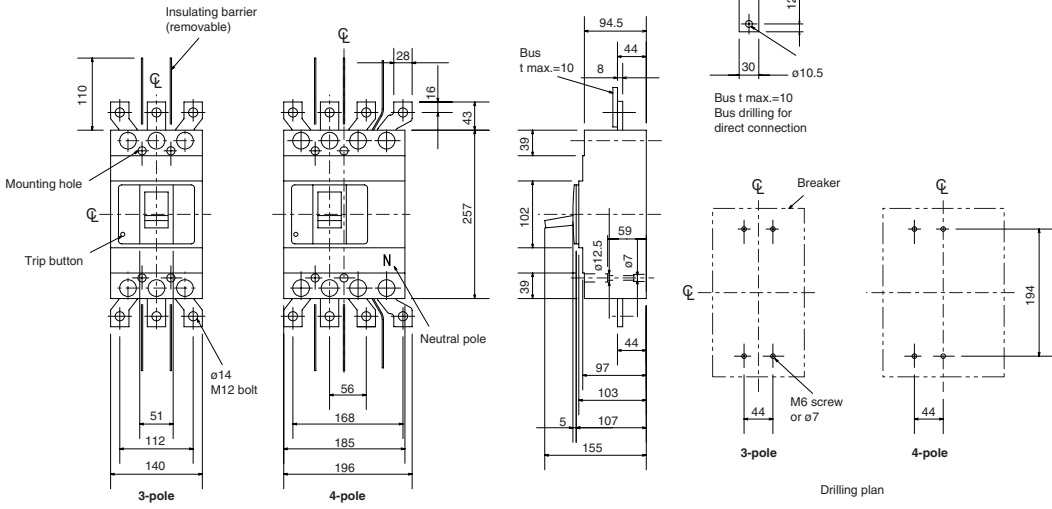
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)

Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-4S	62	Terminal cover	Large (TC-L) TCL-4SW3 (*2)	70
	V V-4S	65		Skeleton (TTC) TTC-4SW3 (*2)	
	S S4SW	68		Rear (BTC) BTC-4SW3 (*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

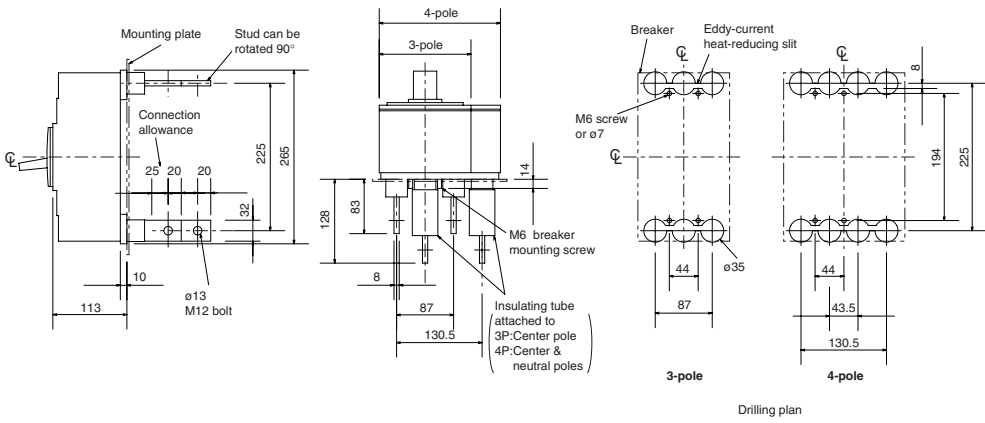
Note (\*) This is for NF630-SEW

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

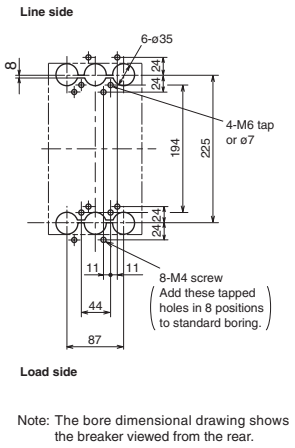
## Front connection



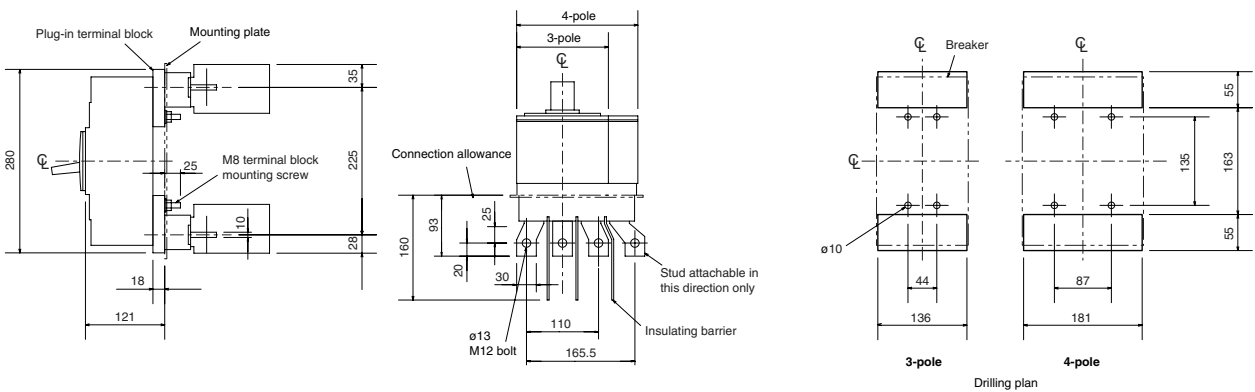
## Rear connection



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



## Plug-in



# 6. Characteristics and Dimensions

## Molded-Case Circuit Breakers

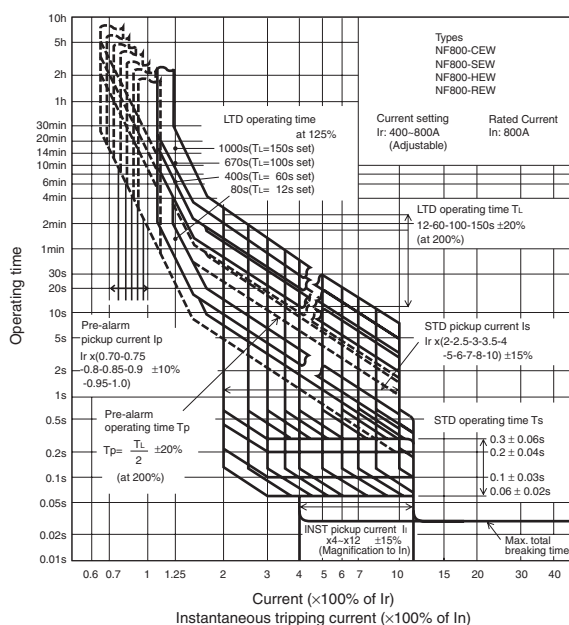
NF800-CEW  
NF800-SEW  
NF800-HEW  
NF800-REW



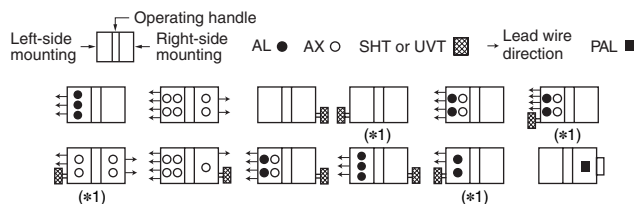
Type NF800-SEW

Type name	NF800-CEW	NF800-SEW	NF800-HEW	NF800-REW			
Rated current In (Amp.)	400-800 adjustable						
Number of poles	3	3	4	3			
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

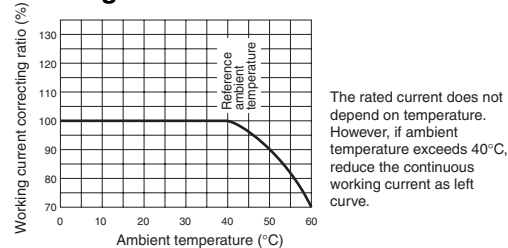


### Internal Accessories



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

### Current Reducing Curve



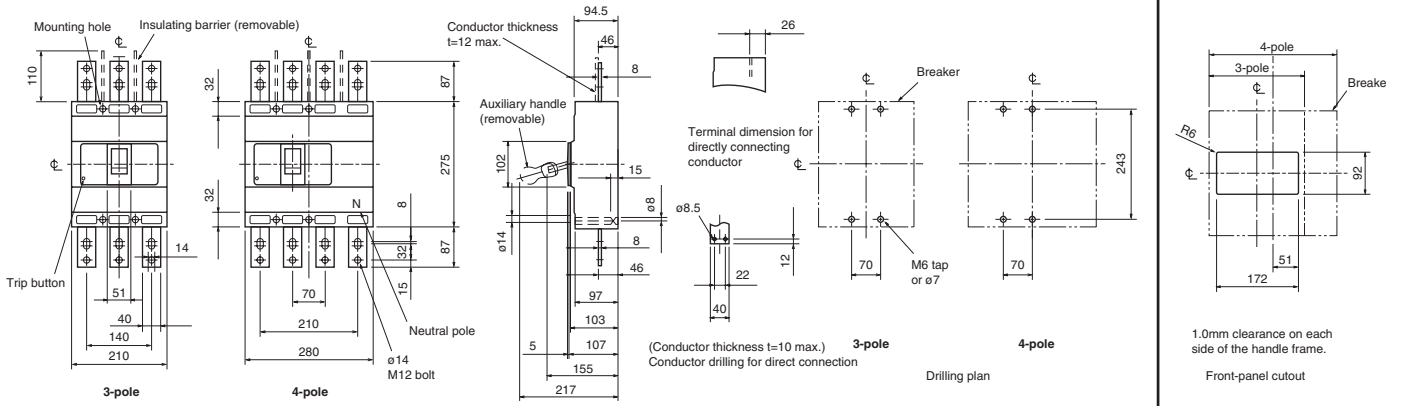
### External Accessories

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

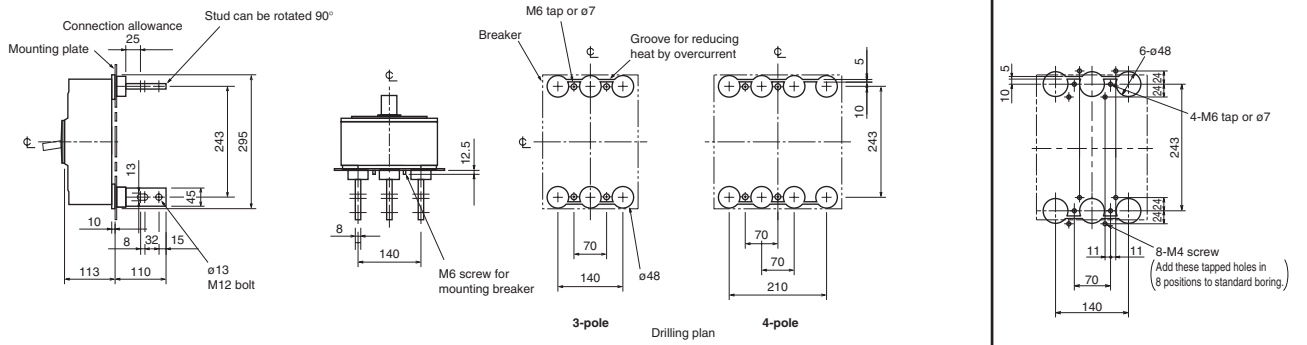
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F F-8S	62	Terminal cover	Large (TC-L) TCL-8SW3 (*1)	70
	V V-8S	65		Skeleton (TTC) TTC-8SW3 (*1)	
	S S4SW	68		Rear (BTC) BTC-8SW3 (*1)	
Mechanical interlock (MI)	MI-8SW3 (*1)	79	Handle lock device	HL HL-4SW	80
Auxiliary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

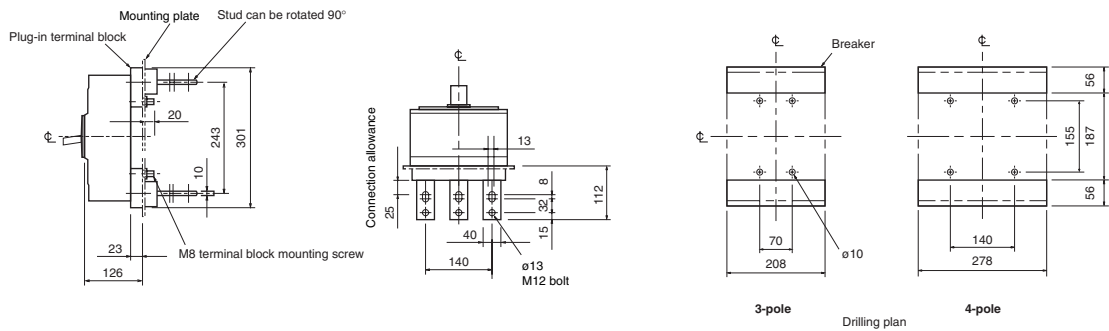
## Front connection



## Rear connection



## Plug-in



# 6. Characteristics and Dimensions

## Molded-Case Circuit Breakers

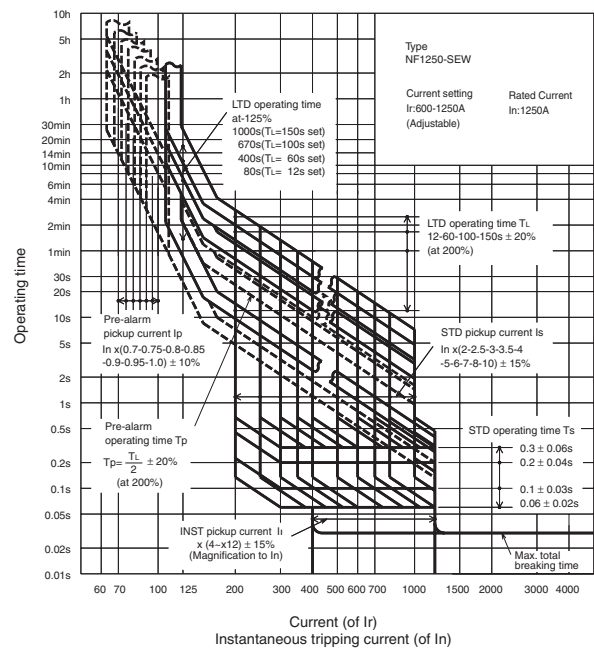
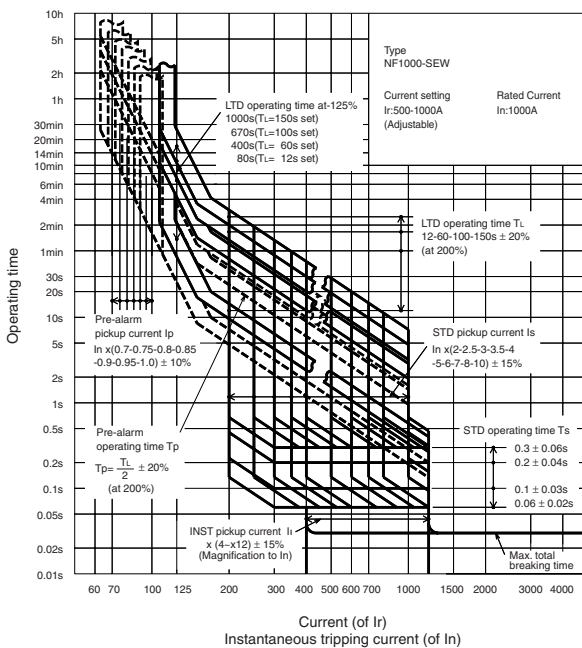
NF1000-SEW  
NF1250-SEW



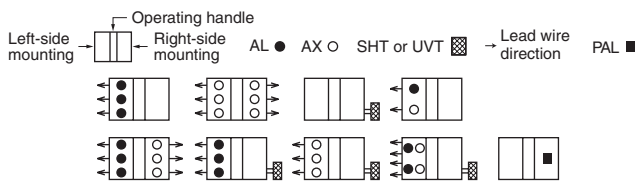
Type NF1250-SEW

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			
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: 3pcs) Auxiliary handle: (1pc)		

### Operating Characteristics

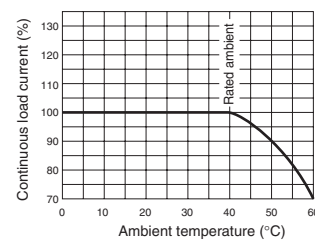


### Internal Accessories



Remark: 1. Refer to page 49.

### Current reduction curve



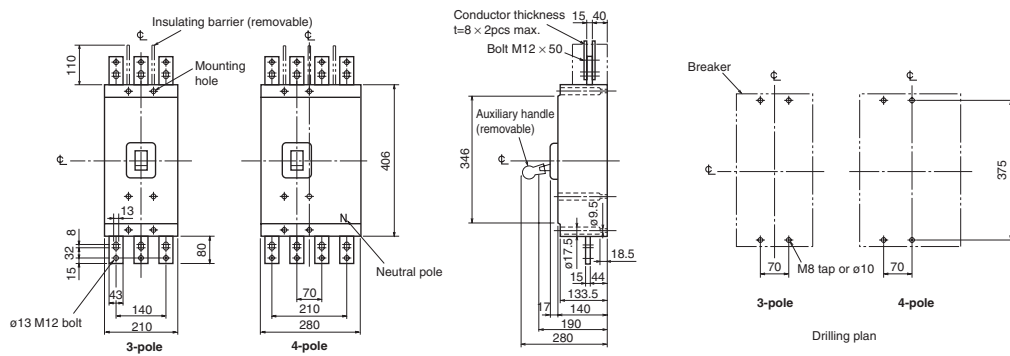
### External Accessories

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

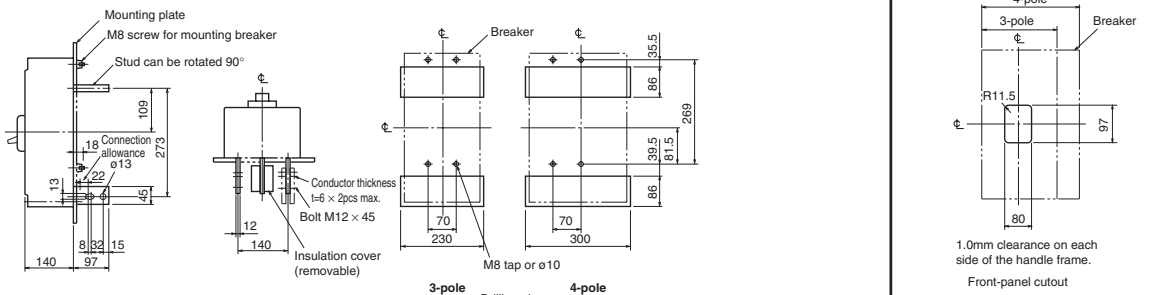
Accessories	Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F	F10SW (*1)	Auxiliary handle	HT-10SW	80
	S	S10SW		Handle lock (HL)	
Mechanical interlock (MI)	MI-10SW3 (*1)	79	Large terminal cover (TC-L)	TCL-10SW3 (*1)	70
			Electrical operation device	☆	71

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

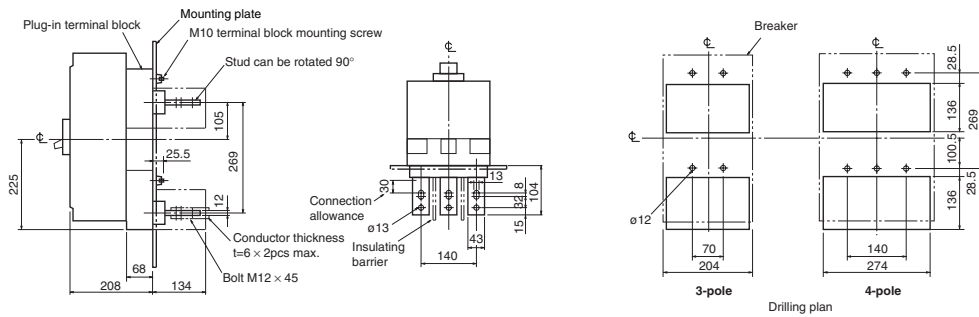
## Front connection



## Rear connection



## Plug-in





# 6. Characteristics and Dimensions

## Molded-Case Circuit Breakers

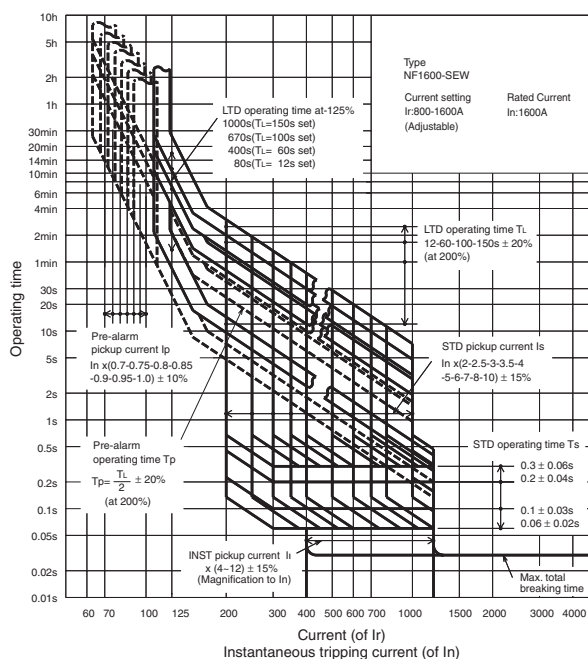
### NF1600-SEW



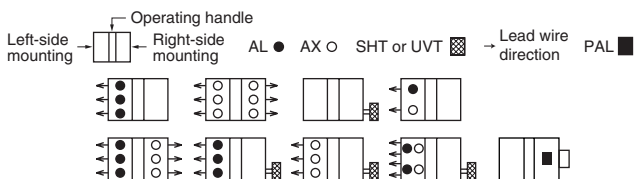
Type NF1600-SEW

Type name		NF1600-SEW		
Rated current $I_n$ (Amp.)		Adjustable 800–1600		
Number of poles		3	4	
Rated insulation voltage $U_i$ (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

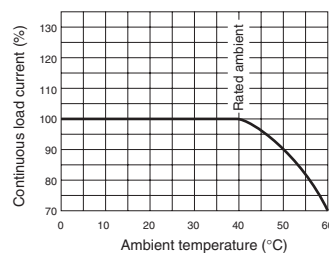


### Internal Accessories



Remark: 1. Refer to page 49.

### Current reducing curve



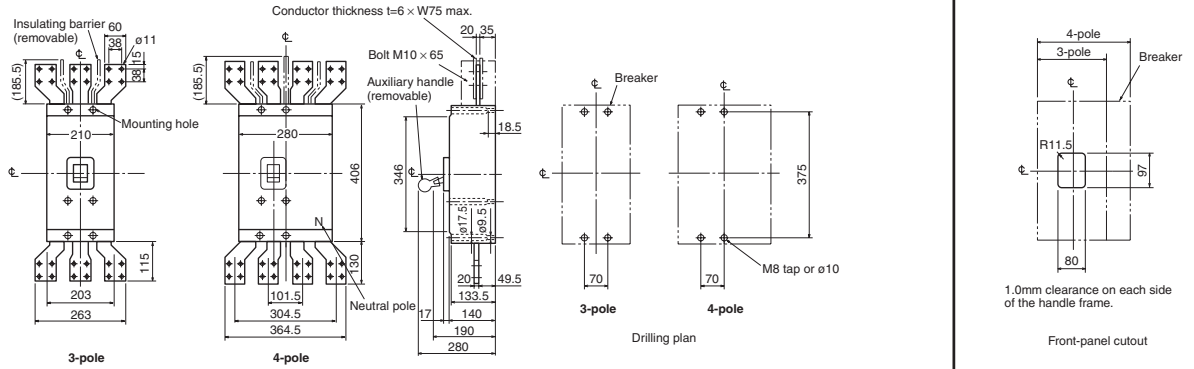
### External Accessories

(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	
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



## Rear connection

