# DATA SHEET

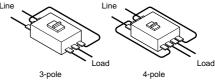


# NF MCCB

Based on Mitsubishi MCCB Datasheet

Sorioo					Coories	Coories	Coories	S oction		Costian	
Series Frame Size					C series 30	S series 32	C series 63	S series 63	H series 63	C series 125	
					30	32				125	
Photo											
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 6 10 16 20 25 32	3 4 6 10 16 20 25 32 40 50 63	3 4 6 10 16 20 25 32 40 50 63	10 16 20 25 32 40 50 63	50 63 80 100 125	
Rated ambient ter Number of poles	mperature (	°C)			30	40	40	40 2 3 4	40 2 3 4	40	
Rated insulation v	voltage Ui (\	/)		690V	500	600	600	600	690 2.5/1	600	
Rated short-circuit breaking capacities (kA)		)947-2 /lcs)	AC (50/60Hz)	525V 500V 440V 415V 400V 380V 230V	- - 1.5/1.5 - 1.5/1.5 2.5/2 (240V)	-         -           2.5/1         2.5/1           2.5/1         2.5/1           2.5/1         2.5/1           5/2         5/2           5/2         5/2           7.5/4         7.5/4		- 7.5/4 7.5/4 7.5/4 7.5/4 7.5/4 7.5/4 15/8	- 7.5/4 10/5 10/5 10/5 10/5 25/13	- 7.5/4 10/5 10/5 10/5 10/5 30/15	
			DC	250V 300V		2.5/1 *4 –	2.5/1 *4 –	7.5/4 *4 -	7.5/4 *4 -	7.5/4 *1	
Suitability for isola Utilization categor					_ A	•	•	•	•	•	
Reverse connecti		ls unmarked	d)		A _	A	A	A	A	A	
Rated impulse wit					4	6	6	6	6	8	
Pollution degree			without current		2 10,000	2 10,000	2 10,000	2 15,000	2 15,000	3 10,000	
Number of operat	ting cycles		with current	440V-In/2 440V-In 690V-In/2 690V-In	6,000 (415V) 6,000 (415V) –	6,000 6,000 - -	6,000 6,000 -	15,000 8,000 -	15,000 8,000 -	6,000 6,000 - -	
Overall dimensior	all dimensions (mm)				45 67.5 96 52	50 75 130 68 90	50 75 130 68 90	50 75 100 130 68 90	50 75 100 130 68 90	60 90 130 68 90	
Mass of front-face	f front-face type (kg) ca				67 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	
		Front	Screw terminal Solderless (box)	terminal (SL)	•	•	•	• •	• -	•	
Installation	Fixed	Rear	Busbar terminal	(B)	-	-	-	-	-	-	
	Plug-in	Rear Rear/front		(PM) (PM-IP)		• -	• -	-	-	• -	
	IEC 35mm rail	Adapter (o	nook (option) ption)		-	• -	• -	-	-	-	
Cassette-type	Alarm swite Auxiliary sv			(AL) (AX)	•	•	•	•	•	•	
(option) *5	Shunt trip Undervoltag	e trip (UVT)	Non-Synchronous C Synchronous Clos	(SHT) Closing (UVT-N) sing (UVT-S)		•	•	•	•	•	
	with Lead-v		l block	(SLT)	•	•	•	•	•	•	
	with Interna with Flying		/pe	(INT)	-	-	-	-	-	-	
Built-in accessories	Pre-alarm ( Overcurren	contact out t trip alarm	*3	(PAL) (OAL)				-	-		
(option)	Cylinder key	/ lock Availa		(S)	-	-	-		- • -	•	
	Enclosure		Dustproof Waterproof	(1) (W)	-	- •	-	• - - • -	• - - • -	-	
	Electrical o	peration de		(W) (MD)						- •	
	Mechanica			(MI) (HL)	-	•	•	•	•	•	
	Handle lock Lock cover		Handle lock	(HL-S) (LC)	_	•	•	•	•	•	
External accessories	External	Door mour	nting	(V) (S)	- -		- •	- •	- •	- •	
	operating handle	Mounted o		(R) (F)	-	-	-	-	-	•	
	Insulating barrier	Between p To ground		(BA-F) (BA-G)	-	•	•	•	•	•	
		Large Small		(TC-L) (TC-S)	•	•	•	•	•	•	
	Terminal cover	Transparer		(TTC)	•	•	•	•	•	ě	
	00101	for rear con		(BTC) (PTC)	٠	•	•	•	•	•	
		for plug-in		L/R	-	•	•	• -	• -	•	
	A			G/L	_	•	•	• -	-	•	
Marine approval Available soon BV DNV					-	•	•	• - • -	• – • –	•	
				ABS	•	•	•	• -	• -	•	
Automatic tripping	g device				Hydraulic- magnetic	Hydraulic- magnetic	Hydraulic- magnetic	Hydraulic- magnetic	Hydraulic- magnetic	Thermal- magnetic	
Trip button					-	Equipped	Equipped	Equipped	Equipped	Equipped	
Notes *1: Use tw	o poles in t	he case of t	hree-pole or four-	pole products	à.						
In addi	ition, wiring	as shown to	the right allows	the three pole	es to be used	L		Line	$\sim$		

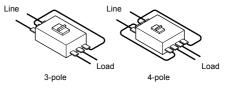
In addition, wining as shown to the right allows the three poles to be used for up to 400V DC and the four poles to be used for up to 500V DC. \*2: Use two poles in the case of three-pole or four-pole products. In addition, wiring as shown to the right allows the three poles to be used for up to 500V DC and the four poles to be used for up to 600V DC. \*3: Both PAL and OAL is not available. Only one specified. \*4: Specify if for DC use. \*5: Cassette-type accessories are not suitable for NF30-CS.



	S series			H series		U series		
	125			125		1	25	
 NF125-SW	NF125-SGW RT	NF125-SGW RE	NF125-HW	NF125-HGW RT	NF125-HGW RE	NF125-RGW RT	NF125-UGW RT	
16 20 32 40 50 63 80 100 125	16–25 25–40 40–63 63–100 80–125	16–32 32–63 63–100 75–125	16 20 32 40 50 63 80 100	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	16–25 25–40 40–63 63–100	
40 2 3 4 690 8/4 18/5 18/9 25/13 30/15	40 2 3 4 690 8/8 22/22 30/30 36/36 36/36	40 3   4 690 8/8 22/22 30/30 36/36	40 2 3 4 690 10/5 22/11 30/15 50/25 50/25	40 2 3 4 690 20/20 35/35 50/50 65/65 70/70	40 3   4 690 20/20 35/35 50/50 65/65 70/70	40 2   3 690 25/25 	40 2 3 4 690 30/30  200/200 200/200 200/200	
30/15         36/36           30/15         36/36           50/25         85/85           15/8 *1         -           -         20/20 *2           ▲         ▲           A         A           8         8		36/36 36/36 85/85 - - A	50/25 50/25 100/50 40/20 *1 - A	75/75 75/75 100/100  40/40 *2 A	75/75 75/75 100/100 - - A	125/125 125/125 125/125 - - - A	200/200 200/200 	
		8 3 50,000 40,000 30,000 1,000 1,000 105 140 165	A           8           3           25,000           20,000           10,000           1,000           1,000           90           120	A           8           3           50,000           40,000           30,000           1,000           1,000           105           140	8 3 50,000 40,000 30,000 1,000 1,000 105   140 165	8 3 50,000 40,000 30,000 1,000 1,000 1,000 105 240	A           8           3           50,000           40,000           30,000           1,000           1,000           105         140           240	
68 90 0.7 0.95 1.3 • -	86 110 2.0 2.6 • • •	86 110 2.0   2.6 - -	68 90 0.8 0.95 1.3 • •	86 110 2.0 2.6 • • •	86 110 2.0   2.6 - -	86 110 3.1 • •	86 110 3.1 3.9 - - -	
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● – ● – Thermal- magnetic Equipped	Thermal- magnetic Equipped	Electronic Equipped	● – Thermal- magnetic Equipped	Thermal- magnetic Equipped	Electronic Equipped	Thermal- magnetic Equipped	● – Thermal- magnetic Equipped	

-								Haariaa					
Series						S series			H series				
Frame Size						160		activity.	160				
Photo													
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 te Number of poles	mperature (	°C)			40	40	40	40	40	40			
Rated insulation	voltage Ui (\	/)			690	690	690	690	690	690			
Rated short-circuit breaking capacities (kA)	) IEC60947-2 (Icu/Ics) AC 440V 440V 415V 400V 380V 230V DC 250V 0 250V 415V 400V 380V 230V 0 0 250V 300V 415V		500V 440V 415V 400V 380V 230V	- 15/8 25/13 30/15 30/15 30/15 50/25 15/8 *1	8/8 22/22 30/30 36/36 36/36 36/36 36/36 85/85	8/8 22/22 30/30 36/36 36/36 36/36 36/36 36/36 85/85	5/3 - 30/8 50/13 50/13 50/13 50/13 100/25 40/20 *1	20/20 35/35 50/50 65/65 70/70 75/75 75/75 75/75 100/100	20/20 35/35 65/65 70/70 75/75 75/75 100/100				
			DC		-	20/20 *2	-	-	40/40 *2	-			
Suitability for isol					•	•	•	•	•	•			
Utilization catego Reverse connect		ls unmarke	d)		A •	A	A •	A	A ●	A			
Rated impulse w	ithstand volta	age Uimp (I	kV)		6	8	8	6	8	8			
Pollution degree		- <b>5</b> - F (	,		2	3	3	2	3	3			
Number of opera	ting cycles		without current	440V-In/2 440V-In 690V-In/2 690V-In	12,000 4,000 4,000 – –	40,000 30,000 20,000 1,000 1,000	40,000 30,000 20,000 1,000 1,000	12,000 4,000 1,000 1,000	40,000 30,000 20,000 1,000 1,000	40,000 30,000 20,000 1,000 1,000			
Overall dimensio	verall dimensions (mm)					105 140 165 86 110	105 140 165 86 110	105 140 165 68 92	105 140 165 86 110	105   140 165 86 110			
Mass of front-fac	e type (kg)				92 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			
	Fixed	Front	Screw terminal Solderless (box) termin Busbar terminal		•	•	•		•	•			
Installation		Rear	Busbar terminal	(B)	-	-	-	-	-	-			
and connections	Plug-in IEC 35mm rail Alarm switc	Rear Rear/front Mounting I Adapter (o	hook (option)	(PM) (PM-IP) (AL)	- - -	- - - - -	- - - - -	- - - -	- - - - -	- - - -			
Cassette-type accessories (option)	Auxiliary sv Shunt trip Undervoltage	vitch	Non-Synchronous C	(AX) (SHT) Closing (UVT-N)	• • • •	• • • •	• • • •	• • • •	• • • -	• • • -			
Accessorie's connection (option)	with Lead-w with Interna with Flying	al terminal tr leads	al block ype	(SLT) (INT)	-	•	•	- -	•	•			
Built-in accessories (option)	Pre-alarm ( Overcurren Cylinder key	t trip alarm	*3	(PAL) (OAL)		- - •	• • •		- - •	• • •			
	Enclosure		Dustproof	(S) (I)	• – • –	_ • -	• -		- • -				
	Electrical o	peration de	Waterproof	(W) (MD)	• -	• -	• –	• –	• –	• –			
	Mechanical	interlock		(MI)	•	•		•	•	•			
	Handle lock	k device	Handle lock	(HL) (HL-S)	•	•	•	•	•	•			
Extern -	Lock cover			(LC)	•	•	•	•	•	•			
External accessories (option)	External operating	Door mour	nting	(V) (S) (R)	•	•	•	•	•	•			
,	handle	Mounted o	on breaker	(R) (F)	•	•	•	•	•	•			
	Insulating	Between p		(BA-F)	•	•	•	•	ě				
	barrier	To ground		(BA-G) (TC-L)	•	-	-	•	-	-			
		Large Small		(TC-L) (TC-S)	•	•	•	•	•	•			
	Terminal	Transpare	nt	(TTC)	•	•	•	•	•	•			
	cover	for rear co	nnection	(BTC)	•	•	•	•	•	•			
		for plug-in		(PTC)	•	•	•	•	•	•			
				L/R G/L		-		-	_	-			
Marine approval	Available	soon		BV	-	-	-	-	-	-			
				DNV		_	_	_	_	_			
				ABS	S – – – – – –		– Thermal-	-					
Automatic trippin	g device				magnetic	magnetic	Electronic	magnetic	magnetic	Electronic			
Trip button					Equipped	Equipped	Equipped	Equipped	Equipped	Equipped			
Notes *1: Use tv	vo noles in th	ne case of t	three-nole or four-										

Notes \*1: Use two poles in the case of three-pole or four-pole products. In addition, wiring as shown to the right allows the three poles to be used for up to 400V DC and the four poles to be used for up to 500V DC.
\*2: Use two poles in the case of three-pole or four-pole products. In addition, wiring as shown to the right allows the three poles to be used for up to 500V DC.
\*3: Both PAL and OAL is not available. Only one specified.



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		S series						U series			
	C series 250		S series 250			H series 250		U se			
								10 10 10 10 10			
	NF250-CW	NF250-SW	NF250-SGW RT	NF250-SGW RE	NF250-HW	NF250-HGW RT	NF250-HGW RE	NF250-RGW RT	NF250-UGW RT		
	125 150 175 200 225 250	125 150 175 200 225 250	125-160 160-250	125–250	125 150 175 200 225 250	125–160 160–250	125–250	125-160 160-225	125-160 160-225		
	40	40 2 3 4	40 2 3 4	40 3 4	40 2 3 4	40 2 3 4	40 3 4	40	40 2 3 4		
-	600	690	690 8/8	690	690 5/3	690 20/20	690	690	690 30/30		
	-	-	22/22	8/8 22/22	-	35/35	20/20 35/35	25/25 125/125	-		
	10/5 15/8	15/8 25/13	30/30 36/36	30/30 36/36	30/8 50/13	50/50 65/65	50/50 65/65	125/125 125/125	200/200 200/200		
	18/9	30/15	36/36	36/36	50/13	70/70	70/70	125/125	200/200		
	18/9 18/9	30/15 30/15	36/36 36/36	36/36 36/36	50/13 50/13	75/75 75/75	75/75 75/75	125/125 125/125	200/200 200/200		
	35/18	50/25	85/85	85/85	100/25	100/100	100/100	125/125	200/200		
	10/5 *1	15/8 *1	-	-	40/20 *1	- 40/40 +2	-	-	_		
	-	-	20/20 *2	-	-	40/40 *2 ●	-	-	-		
	A	A	A	A	A	A	A	A	A		
	6	6	8	8	6	8	8	8	8		
	2 8,000	2 12,000	3 25,000	3 25,000	2 12,000	3 25,000	3 25,000	3 25,000	3 25,000		
	4,000	4,000	15,000	15,000	4,000	15,000	15,000	15,000	15,000		
	4,000	4,000	10,000 1,000	10,000 1,000	4,000 1,000	10,000 1,000	10,000 1,000	10,000 1,000	10,000 1,000		
	-	-	1,000	1,000	1,000	1,000	1,000	1,000	1,000		
	105 165	105 140 165	105 140 165	105 140 165	105 140 165	105 140 165	105 140 165	105 240	105 140 240		
	68	68	86	86	68	86	86	86	86		
	92 1.3 1.5	92 1.3 1.5 1.9	110 2.0 2.6	110 2.0 2.6	92 1.3 1.5 1.9	110 2.0 2.6	2.0 2.6	<u>110</u> 3.1	110 3.1 3.9		
	•	1.5 1.5 1.9	€	€	•	 ●	€	•	0.1 0.3		
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	Thermal-	Thermal-	Thermal-	Electronic	Thermal-	Thermal-	Electronic	Thermal-	Thermal-		
	magnetic Equipped	magnetic Equipped	magnetic Equipped	Equipped	magnetic Equipped	magnetic Equipped	Equipped	magnetic Equipped	magnetic Equipped		
	-16600										

Series					C series		eries		series	
Frame Size					400		00	400	400	
Photo										
Type name					NF400-CP	NF400-SP	NF400-SEP	NF400-HEP	NF400-REP	
Rated current In	(Amp.)				250 300 350 400	250 300 350 400	200~400 adjustable	200~400 adjustable	200~400 adjustable	
Rated ambient te	mperature (	(°C)			40	40	40	40	40	
Number of poles					2 3	2 3 4	3 4	3 4	3	
Rated insulation	voltage Ui (	V)		0001/	600	690	690	690	690	
				690V 500V	15/8	10/10(5/5) *1 30/30(25/25) *1	10/10(5/5) *1 30/30(25/25) *1	10/10 50/50	15/10 70/35	
Rated				440V	25/13	42/42(36/36) *1	42/42(36/36) *1	65/65	125/63	
short-circuit		0947-2	AC (50/60Hz)	415V	36/18	45/45(36/36) *1	45/45(36/36) *1	70/70	125/63	
breaking	(Icu	ı/lcs)	(00/00112)	400V	36/18	45/45(36/36) *1	45/45(36/36) *1	70/70	125/63	
capacities (kA)				380V	40/20	50/50(42/42) *1	50/50(42/42) *1	70/70	125/63	
				230V	50/25	85/85(65/65) *1	85/85(65/65) *1	100/100	150/75	
Suitability for isol	ation -⁄+		DC	250V	20/10 *4 -	40/40 *4 -	-	-	-	
Utilization catego					A	A	В	В	B	
Rated short-time	withstand c				-	-	5	5	5	
Reverse connect					•	•	•	•	•	
Rated impulse w Pollution degree	ithstand volt	age Uimp (	(KV)		8 3	8 3	8	8	8	
Foliation degree				а	140	140 185	140 185	140 185	140	
Overall dimensio	ns (mm)			b	257	257	257	257	257	
	no (mm)		H b a	С	103	103	103	103	103	
				са	134	155	155	155	155	
Mass of front-fac	e type (kg)		Caravitania		4.7 5.5	4.9 5.7 7.5	6 7.8	6 7.8	6	
		Front	Screw terminal Solderless (box) to	orminal (SL)	_	-	-	_	-	
Installation	Fixed	Front	Busbar terminal	erninal (SL)	•		•	-	-	
and		Rear	Duobarterminal	(B)						
connections	Plug-in	Rear		(PM)	ě		ě		ě	
	Real/Iront IP20 (PM-I				-	-	-	-	-	
				(AL)	•	•	•	•	•	
Cassette-type accessories	Auxiliary s	witch		(AX) (SHT)		•	•	•	•	
(option)	Shunt trip	- 4-1- (1 D (=)	Non-Synchronous Clo		•	•	•	•	•	
	Undervoltag	le trip (UVT)	Synchronous Closi		•	•	ě	•		
Accessorie's	with Lead-		al block	(SLT)	ě	•			ě	
connection	with Interna		type	(INT)	-	-	-	-	-	
(option)	with Flying		tout) *3	(PAL)	•	•	•	•	•	
Built-in accessories	Pre-alarm Overcurrer			(PAL) (OAL)			• *2	• *2	• *2	
(option)	Trip indicat			(UAL) (TI)	-	-	•	-	•	
			Dustproof	(S)	_			_		
	Enclosure			(1)	•	• -	• -	-	-	
		Motor	Waterproof	(W)	•	• -	• -	-	-	
	Electrical operation	Motor- operated t	type	(MD)	•	•	•	•	•	
	device	Spring- charge typ	pe	(MDS)	•	•	•	•	•	
	Mechanica	I Interlock		(MI)	•	•	•	•	•	
	Handle loc	k device	Handle lock	(HL) (HL-S)	•	•	•	•	•	
External	Lock cover	r		(LC)	_	-	-	-	-	
accessories	-	Door mou	inting	(V)	•	•	•	•	•	
(option)	External operating	Door mou	interior	(S) (R)	٠	•	•	•	•	
	handle	Mounted of	on breaker	(R)	•	•	•	•	•	
	Insulating	Between		(F) (BA-F)	•	•	•	•	•	
	barrier	To ground		(BA-F) (BA-G)	•	•	•	•	•	
		Large		(TC-L)	ě	i i	ě	-	-	
	Terminal	Small		(TC-S)	-	-	-	-	-	
	cover	Transpare	ent	(TTC)	•	•	•	•	•	
		for rear co for plug-in		(BTC) (PTC)	•	•	• -	- •	•	
		nor plug-In		L/R		• - • -	• – • –	• -		
				G/L	ě	• -	• -	• -	ě	
Marine approval				BV	۲	• -	• -	• -	•	
				DNV	_		• -		-	
				ABS	• Thermal-	Thermal-	• -	• -	•	
Automatic trippin	g device				magnetic	magnetic	Electronic	Electronic	Electronic	
Trip button					Equipped	Equipped	Equipped	Equipped	Equipped	
	e of solderle	ess termina	I, interrupting capac	city reduces:						

Notes \*1: In case of solderless terminal, interrupting capacity reduces: ( / ). \*2: Solid state relay output is option . Please specify if other output is necessary. (Standard type is thus SLT equipped.) \*3: Both PAL and OAL is not available. Only one specified. \*4: Specify if for DC use.

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	U series	C series		eries	630 H se		U series
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	NF400-UEP	NF630-CP	NF630-SP	NF630-SEP	NF630-HEP	NF630-REP	NF630-UEP
					++		+
	200-400	500 600 630	500 600 630	300~630	300~630	300~630	300~630
	adjustable			adjustable	adjustable	adjustable	adjustable
	40	40	40	40	40	40	40
	3 4	2 3	2 3 4	3 4	3 4	3	3 4
	690	600	690	690	690	690	690
	35/35	_	10/10	10/10	15/15	20/15	35/35
	170/170	18/9	30/30	30/30	50/50	70/35	170/170
	200/200	36/18	42/42	42/42	65/65	125/63	200/200
	200/200	36/18	45/45	45/45	70/70	125/63	200/200
	200/200	36/18	45/45	45/45	70/70	125/63	200/200
	200/200	40/20	50/50	50/50	70/70	125/63	200/200
	200/200	50/25	85/85	85/85	100/100	150/75	200/200
	-	20/10 *4 -	40/40 *4 -	-	-	-	-
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	В	A	A	В	В	В	В
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	3	3	3	3	3	3	3
	140 280	210	210 280	210 280	210 280	210	210 280
	297 322	275	275	275	275	275	322
	200	103	103	103	103	103	200
	252	155	155	155	155	155	252
	16.7 26.1	8.0 9.4	8.5 9.6 12.5	10.5 13.6	10.5 13.6	10.5	25.7 31.9
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		Thermal-	Thermal-				
	Electronic	magnetic	magnetic	Electronic	Electronic	Electronic	Electronic
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	Equippod	Equippod	Equippod	Equippod	Equippod	Equippod	Equippod
	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped

Series					Caprico		orioo	1	Lleariag		
Series Frame Size					C series 800		eries 300		series 800	U series 800	
Photo								41 177			
Type name					NF800-CEP	NF800-SDP	NF800-SEP	NF800-HEP	NF800-REP	NF800-UEP	
Rated current In	(Amp.)				400~800 adjustable	(700) 800	400~800 adjustable	400~800 adjustable	400~800 adjustable	400~800 adjustable	
Rated ambient te		°C)			40	40	40	40	40	40	
Number of poles Rated insulation		()			<u>3</u> 600	2	3 4	3 4	<u>3</u> 690	3 4	
		•)		690V	-	-	10/10	15/15	20/15	35/35	
Rated short-circuit breaking capacities (kA)		0947-2 i/lcs)	AC (50/60Hz)	500V 440V 415V 400V 380V 230V 250V	18/9 36/18 36/18 36/18 40/20 50/25		30/30 42/42 45/45 45/45 50/50 85/85	50/50 65/65 70/70 70/70 70/70 100/100	70/35 125/63 125/63 125/63 125/63 125/63 150/75	170/170 200/200 200/200 200/200 200/200 200/200	
Suitability for isol				2300	•	40/40 *4	•	•	•	•	
Reverse connect	ation category 3 short-time withstand current low (kA) rse connection (terminals unmarked) 1 impulse withstand voltage Uimp (kV) tion degree				B 9.6 • 8 3 210	A 	B 9.6 8 3 210 280	B 9.6 8 3 210 280	B 9.6 ● 8 3 210	B 9.6 8 3 210 280	
Overall dimensio	verall dimensions (mm)				275 103 155	275 275 103 155	210 275 275 103 155	210 280 275 103 155	210 275 103 155	210 280 322 200 252	
Mass of front-fac	e type (kg)				10.9	9	10.9 14.2		10.9	27.6 33.7	
Installation and	Fixed Front Solderless (box) terminal Busbar terminal Rear				- •				- - •	- - •	
connections	Plug-in	Rear Rear/front	IP20	(B) (PM) (PM-IP)	• • -	• • •	• • -	• • •	• • •		
Cassette-type accessories	Alarm switch         (Alarm switch           Auxiliary switch         (A)			(AL) (AX) (SHT)	•	•	•	• • •	• • •	• • •	
(option) *5 Accessorie's		wire termina		ng (UVT-S) (SLT)	• • •	• • •	•	• • •	• • •	• • •	
connection (option) Built-in	with Flying Pre-alarm	(contact out	tput) *3	(INT) (PAL)	- • • *2	- • -	- • • *2	- • • *2	- • • *2	- • • *2	
accessories (option)	Overcurrer Trip indicat	nt trip alarm for	*3	(OAL) (TI)	-	-	-	-	-	-	
	Enclosure		Dustproof Waterproof	(S) (1) (W)	•	- •	- • - • -				
	Electrical operation	Motor- operated t		(MD)	•	•	•	•	•	•	
	device Mechanica	Spring- charge typ I interlock	e	(MDS) (MI)	•	•	•	•	•	•	
	Handle loc		Handle lock	(HL)	ě	•	•	•	•	ě	
External	Lock cover			(HL-S) (LC)	-	-	• -	-	-	• -	
accessories (option)	External	Door mou	nting	(V)	٠	•	•	•	•	-	
	operating	Mounted c		(S) (R)	•	•	•	•	•	• -	
	Insulating	Between p		(F) (BA-F)	•	•	•	•	•	•	
	barrier	To ground		(BA-G)	•	•	•	•	•	•	
		Large Small		(TC-L) (TC-S)	•	•	•	•	•		
	Transparent			(TTC)	•	•	•	•	•	-	
		for rear co for plug-in		(BTC) (PTC)	-	-	•	•	-	•	
		nor plug-in		L/R	•	-	• -	• -	•	-	
Marine approval				G/L BV	•	-	• - • -	• -	•	-	
marine approval				DNV	•		• – • –	• - 	• -	-	
				ABS	ě	-	• -	• -	•	-	
Automatic trippin	g device				Electronic	Thermal- magnetic	Electronic	Electronic	Electronic	Electronic	
Trip button					Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	
Notes *1: In cas	e of solderle	ess terminal	interrupting capac	city reduces: (							

Notes \*1: In case of solderless terminal, interrupting capacity reduces: ( / ).
 \*2: Solid state relay output is option . Please specify if other output is necessary. (Standard type is thus SLT equipped.)
 \*3: Both PAL and OAL is not available. Only one specified.
 \*4: Specify if for DC use.
 \*5: Cassette-type accessories are not suitable for NF1000-SS, NF1000-SSD, NF1250-SSD, NF1250-SSD, NF1250-UR, NF1600-SSD.

 S series			S series				J series		S series		
	100	0		125	50		1250		160	0	
2		2			2		基 [2]				
NF100	• 0-SS	NF1000-SSD	NF12	250-SS	NF1250-SSD	NF	1250-UR	NF160		NF1600-SSD	
500–600–700- 800–900–1000	-	1000	600-700-800		1250	600–700–8		800-1000-120	0-	1600	
4(	-	40		40	40		40	4	-	40	
3	4	2	3	4	2	3	4	3	4	2	
69		-		<u>890</u>	-		690	69		-	
25/1		-		5/13 5/33			85/42	25/			
85/4		-		5/43	-		125/65	85/4		_	
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85/4				5/43	_		125/65	85/4		_	
 125/		-		- 5/63	-		 170/85	- 125/			
 -		40/20 *4		-	40/20 *4		-			40/20 *4	
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210	280	210	210	280	210	240	310	210	280	210	
 400		406		06	406		406	40		406	
 14		<u>140</u> 190		40	<u>140</u> 190		<u>144</u> 194	14		<u> </u>	
23.5	30.7	22	23.5	90 30.7	22	37.2	46.7	19 34.5	41.2	32	
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Electr	onic	Thermal- magnetic	Elec	tronic	Thermal- magnetic	E	lectronic	Electr	ronic	magnetic	
 Equip		Equipped			Equipped			Equip		Equipped	

Molded-Case Circuit Breakers and Motor Breakers

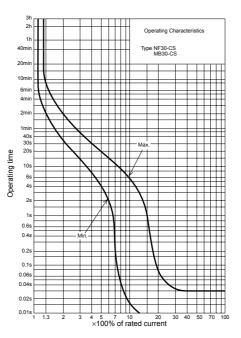
NF30-CS MB30-CS



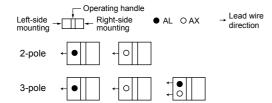
Type NF30-CS

Serie	s			C series																		
Fram	e size				3	30																
Туре	name			NF3	NF30-CS MB30-CS																	
	d current In (A) a erature 30°C	at ambien	t	3, 5, 10,	15, 20, 30	(2), (3.2), 4, (5), 6.3, (8), 10, 16																
Numb	er of poles			2 3 2 (for single phase) 3																		
Rated	insulation voltage	ge Ui (V)	AC		50	00																
_			690V		-	_																
Rated breaking capacity (kA)	IEC60947-2	AC	500V		-	_																
ty (k			415V																			
ed b Daci	(Icu/Ics)							-											380V		1.5	/1.5
Cap			240V		2.	5/2																
-		DC	250V		-	_																
Suitat	bility for isolation	ו –∕יא–			-	_																
Utiliza	ation category				/	٩																
Rever	se connection				-	_																
Rated	impulse withstan	d voltage	Uimp (kV)		4	4																
Pollut	ion degree			2																		

### ■Operating Characteristics



### Internal Accessories =



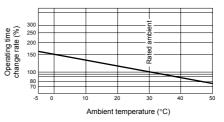
Remark: (1) Standard lead wire is drawn from side. However, lead wire drawn by load can be produced upon request. (2) refer to page Í 0.

### ■External Accessories

	Accessories		Type name	Reference page
ver	Small	(TC-S)	TCS-03CS (*1)	
al co	Large	(TC-L)	TCL-03CS (*1)	66
Ferminal cover	Rear	(BTC)	BTC-03CS (*1)	00
Teri	Skeleton	(TTC)	TTC-03CS (*1)	
Har	ndle lock	(HL)	HL-05FH	76
Loc	k cover	(LC)	LC03CS	76
Rail mounting adapters (DIN			DIN-03CS	76

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

### ■Temperature Characteristics



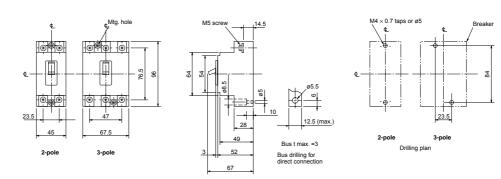
### Standard Attached Parts (Front connection)

Mounting screw: M4×0.7×20 2pcs

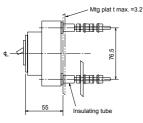
Small terminal cover 2pcs Only MB30-CS

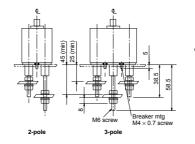
### Based on Mitsubishi MCCB Datasheet

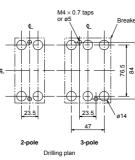


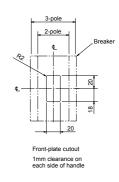


### **Rear connection**

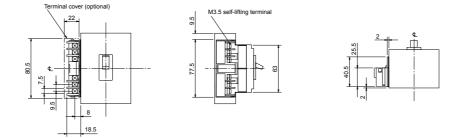




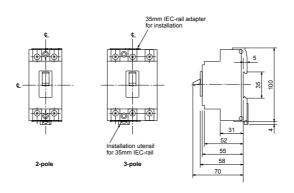




### Lead-wire Terminal block (LT)



### IEC Rail Mounting Adapter



Molded-Case Circuit Breakers and Motor Breakers

Type name

Rated current In (Amp.)

Rated insulation voltage Ui (V)

IEC60947-2

Reverse connection (terminals unmarked) Rated impulse withstand voltage Uimp (kV)

(lcu/lcs)

Utilization category

Pollution degree

Number of poles

Rated short-circuit braking capacity (kA)

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



Type NF32-SW

Operating	Cha	aracteristi	ics —						
	×100%	Max Max 5 6 7 10 15 of Rated current	3.5W NF63.HW		4h 2h 300min 4 min 6 min 2 min 9 min 1 min 9 min 9 min 1 min 9 min	13	N	10 15 20	SW NF63-HW 
2-pole	• •					eft-side		side	= ■Temperature Characteristics
3-pole ← ●	● → ● → ○ →	$\begin{array}{c c} \leftarrow \bigcirc & \bigcirc \\ \leftarrow & \bigcirc & \bigcirc \\ \leftarrow & \bigcirc & & & \\ \hline & & & & \\ \hline & & & & \\ \end{array} $				<b>⊠</b> s	NL OAX SHT or UVT .ead wire lirection		Operating time change rate (%) 88 00 05 05 05 05 05 05 05 05 05
emark: (1) refer to p	age í (	0.				U			-10 0 10 20 30 40 50 Ambient temperature (°C)
External A	cce	ssories =							Standard Attached Parts (Front connection)
Accessories		Type name	Reference page		Accessorie	s	Type name	Reference page	
	F	F05SW (*1) S05SW	Î 1 Î 3		lechanical interlock	МІ	MI-05SW3 (*1)	75	Mounting screw: M4×0.7×55 (2 and 3P: 2pcs, 4P: 4pcs)
Operating handle	v	V05SWF	13 Î0		Small	TC-S	TCS-05SW3W (*1)		(Note)
	R	_		cover	Large	TC-L	TCL-05SW3W (*1)	1	Insulation barrier: (2P: 1pc, 3P: 2pcs, 4P: 3pcs)
	LC	LC-05SW			Skeleton	TTC	TTC-05SW3 (*1)	66	Note: These are supplied with NF63-SW, NF63-HW, and
Handle lock device	(*2)	HLF-05SW	76	erminal	Rear	BTC	BTC-05SW3W (*1)	1	MB50-SW models.

NF32-SW

3 4 6 10

16 20 25

32

600

2.5/1

2.5/1

5/2

7.5/4

.

A

.

6

2

2.5/1

3

2\*1

690V

500V

440V

400V

230V

250V

AC

(50/60Hz)

DC

\*1: Types of DC specifications can be produced upon request.

NF63-CW

3 4 6 10

16 20 25 32

40 50 63

600

2.5/1

2.5/1

5/2

7.5/4

•

А

•

6

2

2.5/1

3

2\*1

NF63-SW

3 4 6 10

16 20 25 32

40 50 63

600

\_

7.5/4

7.5/4

7.5/4

15/8

.

A

.

6

2

2\*1

7.5/4

NF63-HW

10 16 20 25 32 40 50 63

690

2.5/1

7.5/4

10/5

10/5

25/13

•

A

.

6

2

7.5/4

3 4 2\*1 3 4

MB30-SW

0.8 1.2 1.4 2 2.5 4 5 7.1 8 10 12

16 25

3

500

\_

2.5/1

5/2

7.5/4

•

A

.

6

2

MB50-CW

8 10 12

16 25 32

40 45

3

500

2.5/1

5/2

7.5/4

•

A

•

6

2

MB50-SW

0.8 1.2

1.4 2 2.5 4 5 7.1

3

500

-

7.5/4

7.5/4

15/8

•

A

•

6

2

HLN-05SW

HL-S HLS-05SW (\*1)

HL

Handle lock device

Term

Plug-in

IEC 35mm rail

mounting adapters (option)

PTC PTC-05SW3W (\*1)

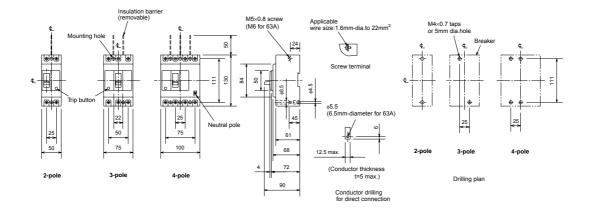
DIN-05SW

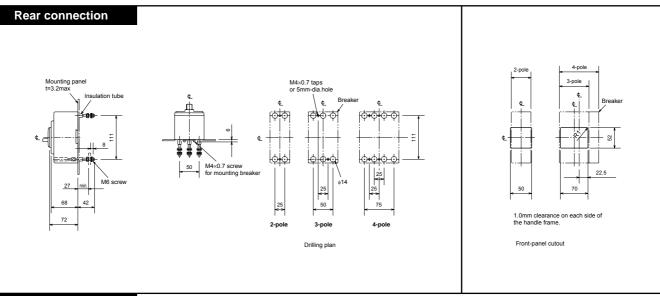
76

76

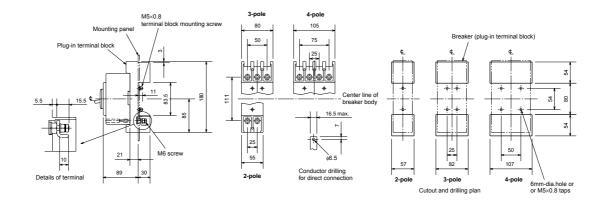
Notes: (\*1) The designation depends on the number of poles. Refer to the reference page (\*2) HLF types are used for OFF-lock, and HLN types for ON-lock.

### Front connection





Plug-in



Molded-Case Circuit Breakers and Motor Breakers

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

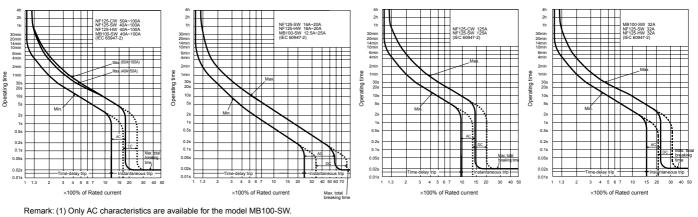


Туре	name			NF12	5-CW	NF	125-S	W	NF	125-H	W	MB100-SW
Rated	d current In (Amp	.)			3 80 125	16 20 32 40 50 63 80 100 125				20 32 0 63 8 100		(12.5) (16) (25) 32 (40) 45 63 71 90 100
Num	ber of poles			2	3	2 3 4		2	3	4	3	
Rateo	d insulation voltag	le Ui (V)		600		690		690			500	
	690V				-		8/4		10/5			-
τ <u>i</u> (Ŷ	(\$) AC 500V				5/4		18/9			30/15		-
ity (		AC (50/60Hz)	440V	10/5		25/13			50/25			25/13
short-circuit capacity (kA)	IEC60947-2		400V	10	/5		30/15			50/25		30/15
	(Icu/Ics)		230V	30/	/15		50/25			100/50	)	50/25
Rated braking			250V	7.5/4	-	15/8	-	-	40/20	-	-	-
oral Draft		DC *1	400V	-	7.5/4	-	15/8	-		40/20		-
			500V	-	-	-	-	15/8	-	-	40/20	-
Suita	bility for isolation	~ <b>*</b>			•		٠			٠		•
Utiliza	Utilization category			A	۱.		Α		A			А
Rever	Reverse connection (terminals unmarked)			•		٠			٠		•	
Rated	Rated impulse withstand voltage Uimp (kV)			8		8		8			8	
Pollut	Pollution degree			3		3		3			3	
				1								

\*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.

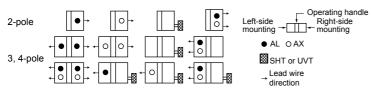
### ■Operating Characteristics

Type NF125-CW



Current rating (%)

### Internal Accessories



Remark: (1) refer to page 50.

### ■External Accessories

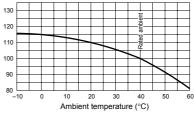
Accessories	6	Type name	Reference page		Accessorie	s	Type name	Reference page
	F	F1SW (*1)	61	Mechanical		м		75
Operating handle	S	S1SW	63		interlock	IVII	MI-05SW3 (*1)	/5
Operating handle	V	V1SW (*2)	60	ver	Small	TC-S	TCS-1SW3W (*1)	
	R	R1SW	64	ŝ	Large	TC-L	TCL-1SW3W (*1)	
	LC	LC-1SW		minal	Skeleton	TTC	TTC-1SW3 (*1)	66
Line die te die des des	(*4)	HLF-1SW			Rear	BTC	BTC-1SW3W (*1)	
Handle lock device	ΗĹ	HLN-1SW	76	Tel	Pulg-in	PTC	PTC-1SW3W (*1)	
	HL-S	HLS-1SW (*1)(*4)			IEC 35mm		DIN-1SW3 (*1)	76
					mounting ada	apters	Dirt-10003 (1)	10
					Electrical operation dev		MDS-NF1SWE (*3)	67

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

(\*2) Attach the letter "F" to the end of designation for a fixed type.

(\*3) Specify the working voltage. An order should be placed at the same time as an order of circuit breaker main body. (\*4) HLF and HLS types are used for OFF-lock, and HLN types for ON-lock.

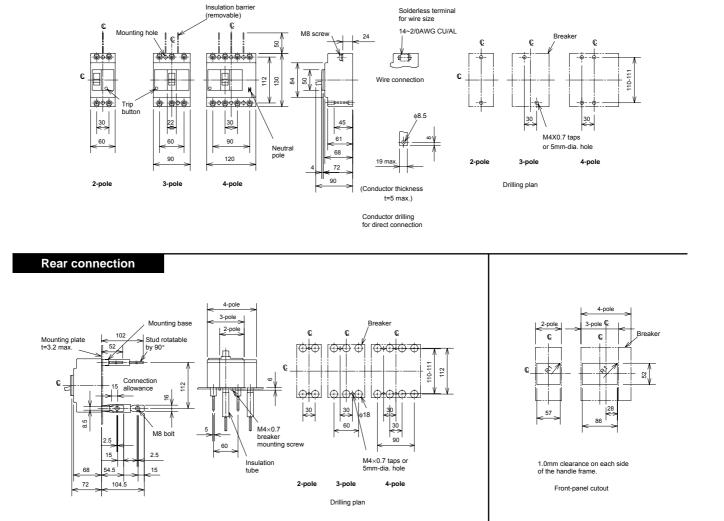
### ■Ambient Compensating Curve



### Standard Attached Parts (Front connection)

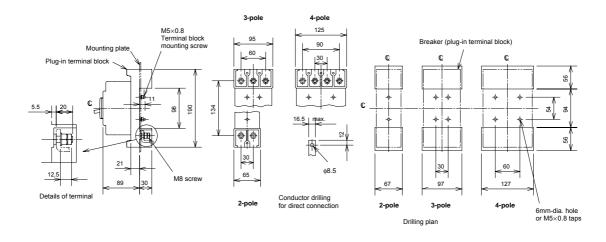
Mounting screw:	M4×0.7×55 (2 and 3P: 2pcs, 4P: 4pcs)
	: (2P: 1pc, 3P: 2pcs, 4P: 3pcs)

Note: These are supplied with NF125-SW, NF125-HW, and MB100-SW models.



### Plug-in

Front connection



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

Molded-Case Circuit Breakers and Motor Breakers

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



Type NF250-CW

Operating Characteristics

Туре	name			NF	160-8	SW	NF	=160-H	W	NF2	250	-CW	NF	250-8	SW	NF	250-H	łW	MB225-SW
Rateo	d current In (A	mp.)		125	150	160	125	150	160			0 175 5 250		150 225			150 225		125 150 175 200 225
Numb	per of poles			2	3	4	2	3	4	2		3	2	3	4	2 3 4		4	3
Rateo	l insulation vol	ltage Ui (\	/)		690			690			60	0		690			690		500
			690V		-			5/3			-			-			5/3		-
₹		AC	500V		15/8			30/8			10/	'5		15/8			30/8		-
ty (F		(50/60Hz)	440V	:	25/13		50/13		;		15/	'8		25/13			50/13		25/13
short-circuit capacity (kA)	IEC60947-2		400V	:	30/15			50/13	;		18/	'9		30/15	i		50/13		30/15
cal	(Icu/Ics)		230V		50/25			100/2	5	3	35/	18		50/25		1	00/2	5	50/25
Rated braking			250V	15/8	-	-	40/20	) -	-	10/5	;	-	15/8	-	-	40/20	-	-	-
bra		DC	400V	-	15/8	-	-	40/20	-	-		10/5	-	15/8	-	-	40/20	-	-
			500V	-	-	15/8		_	40/20		_		-	_	15/8	-	-	40/20	-
Suital	pility for isolati	on -⁄++-			٠			٠			٠			٠		•			•
Utiliza	ation category				А			А			А		A				А		А
Rever	se connection (t	erminals ur	nmarked)		٠			٠			•			٠			٠		•
Rated	impulse withstar	nd voltage I	Uimp (kV)		6			6			6			6			6		6
Pollut	ion degree				2			2			2			2			2		2

\*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.

Ambient Compensating Curve

Ambient temperature (°C) (rated ambient 40°C)

0

130

120

110 100

90

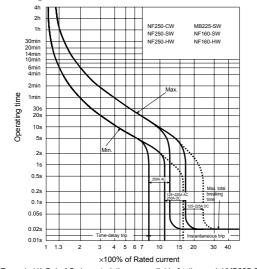
80

■Internal Accessories

0 0

┥●║●┝

Curreny rating (%)



Remark: (1) Only AC characteristics are available for the model MB225-SW (2) refer to page 50

#### External Accessories

Accessories		Type name	Reference page		Accessories		Type name	Reference page	
	F	F2SW	61	Mechanical		м	MI OF CIM/2 (*4)	75	
Operating handle	S	S2SW	63		interlock	IVII	MI-05SW3 (*1)	/5	
operating number	V	V2SW (*3)	60	er	Small	TC-S	TCS-2SW3W (*1)		
	R	R2SW	64	cover	Large	TC-L	TCL-2SW3W (*1)		
	LC	LC-2SW		nal	Skeleton	TTC	TTC-2SW3 (*1)	66	
Handle lock device	(*4)	HLF-2SW	76	Terminal	Rear	BTC	BTC-2SW3W (*1)		
	HL	HLN-2SW		Це	Plug-in	PTC	PTC-2SW3W (*1)		
	HL-S	HLS-2SW							
				Electrical operation devic	e	MDS-NF2SWE (*2)	67		

### 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)

Left-side

mounting

• AL OAX

SHT or UVT

→ Lead wire

direction

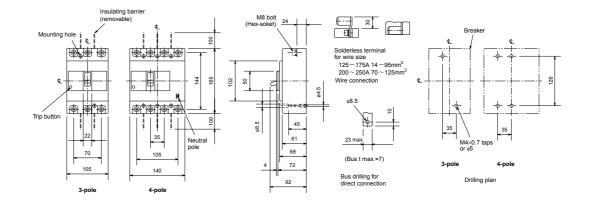
Operating handle

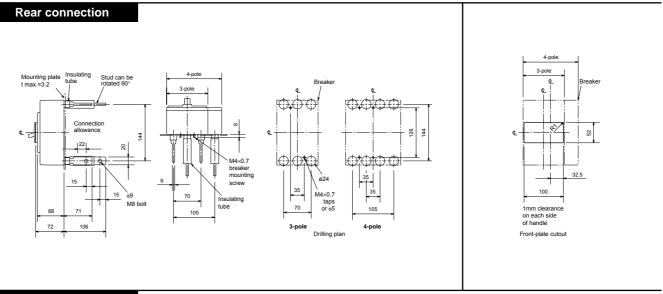
► \_\_\_\_\_ Right-side mounting

Notes:

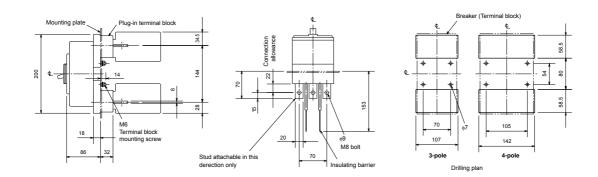
(\*1) The designation depends on the number of poles. Refer to the reference page. (\*2) Specify the working voltage. An order of MB225-SW should be placed at the same time as an order of circuit breaker main body. (\*3) Attach the letter "F" to the end of designation for a fixed type. (\*4) HLF types are used for OFF-lock, and HLN types for ON-lock.

### **Front connection**





### Plug-in



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

 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.

**Molded-Case Circuit Breakers** 

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

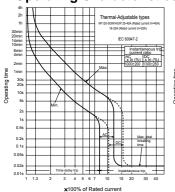


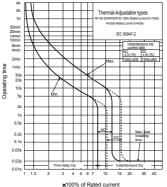
Type NF250-SGW

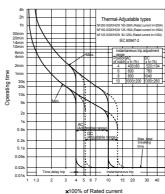
Туре	e name			NF	125-S0 RT	ЗW	NF125 R	i-SGW E	NF	125-HG RT	SW		i-HGW E	NF	160-S0 RT	ЗW	NF160 R	)-SGW
Rate	d current In	(Amp.)		40-6	25, 25 3, 63- 30-12	-100,	16–32, 63–100,		40-6	25, 25 3, 63– 30–125	-100,		32–63, 75–125	1	25–1	60	80–	160
Num	ber of poles			2	3	4	3	4	2	3	4	3	4	2	3	4	3	4
Rate	d insulation	voltage U	i (V)		690		69	690		690		690		690			690	
<del>-</del> 7			690V		8/8		8	/8	1	20/20		20	20		8/8		8/	/8
short-circuit capacity (kA		AC	500V	30/30		30/30			50/50		50	/50		30/30	)	30/	/30	
short-circuit capacity (kA)		(50/60Hz)	440V	:	36/36	;	36	/36		35/65		65	65		36/36	;	36/	/36
ťα	IEC 60947-2		400V	:	36/36		36	/36	1	75/75		75	75		36/36	;	36/	/36
g g	(Icu/Ics)		230V	4	85/85		85	/85	10	00/10	0	100	/100		85/85	;	85/	/85
p p			300V	20/20	-	-	-	-	40/40	-	-	-	-	20/20	.	-	-	-
Rated : braking		DC *1	500V	-	20/20	-	-	-	-	40/40	_	-	-	-	20/20	-	-	-
8 2			600V	-	-	20/20	-	-	-	-	40/40		-		_	20/20	_	-
Suita	ability for iso	lation -/	*		٠		•	•		•		•	•		٠		•	•
Utiliz	ation catego	ory			А		A	4		А			4	А				4
Reve	rse connection	(terminals u	nmarked)		٠		•	•		٠		•	•		•		•	
Rated	I impulse withs	tand voltage	Uimp (kV)		8		8	3		8		8	3	8			8	
Polli	ition degree				з		3	2		3			2	3		з	3	
. 0.10								,		5			,		-			, 
	e name			NF	160-HC RT	ЗW		-HGW	NF2	250-SG RT	W	NF250 R	-SGW	NF	250-H RT	GW	NF250 Ri	-HGW
Туре	e name ed current In	(Amp.)					NF160	-HGW E	12	250-SG	0,	NF250	-SGW E	1		30	NF250	-HGW E
Type Rate					RT		NF160 R	-HGW E	12	250-SG RT 5–16	0,	NF250 R	-SGW E	1	RT 25–16	30	NF250 RI	-HGW E
Type Rate Num Rate	ed current In		i (V)	12	RT 25–16	0	NF160 R 80–	-HGW E 160 4	12 16	250-SG RT 5–16 60–25	0, 0	NF250 R 125-	-SGW E -250 4	1	RT 25–16 60–25	60 50	NF250 Ri 125-	-HGW E -250 4
Type Rate Num Rate	ed current In Iber of poles		i (V) 690V	12	RT 25–16 3	4	NF160 R 80– 3	-HGW E 160 4 90	12 16	250-SC RT 5–16 50–25 3	0, 0	NF250 R 125- 3	-SGW E -250 4 90	1 1 2	RT 25–16 60–29 3	60 50 4	NF250 R 125- 3	-HGW E -250 4 90
Type Rate Num Rate	ed current In Iber of poles	voltage U		12 2	RT 25–16 3 690	4	NF160 R 80– 3	-HGW E 160 4 90 (20	12 16 2	250-SG RT 5-16 60-25 3 690	0, 0	NF250 R 125- 3	-SGW E -250 4 90 8	1 1 2	RT 25–16 60–25 3 690	60 50 4	NF250 RI 125- 3	-HGW E -250 4 90 /20
Type Rate Num Rate	ed current In Iber of poles d insulation		690V	12 2	RT 25–16 3 690 20/20	4	NF160 R 80– 3 69 20	-HGW E 160 4 90 (220 (50)	12 16 2	250-SC RT 5–16 50–25 3 690 8/8	0, 0	NF250 R 125- 3 69 8	-SGW E -250 4 00 88 30	1 1 2	RT 25–16 60–29 3 690 20/20	30 50 4	NF250 Rl 125- 3 69 20/	-HGW E -250 4 90 /20 /50
Type Rate Num Rate	ed current In Iber of poles	voltage U	690∨ 500∨	12 2	RT 25–16 3 690 20/20 50/50	4	NF160 R 80- 3 69 20, 50,	-HGW E 160 4 90 (20 (50 (65	12 16 2	250-SG RT 5-16 60-25 3 690 8/8 30/30	0, 0	NF250 R 125- 3 69 8. 30.	-SGW E -250 4 90 8 30 36	2	RT 25–16 60–25 3 690 20/20 50/50	30 50 4	NF250 Rl 125- 3 69 20/ 50/	-HGW E -250 4 90 /20 /50 /65
short-circuit B N Bater capacity (kA) at M N Bater	ed current In iber of poles d insulation	voltage U	690V 500V 440V	12 2 2 0 0 0 0 0 0 0	RT 25–16 3 690 20/20 50/50 65/65	4	NF160 80- 3 69 20 50 65	-HGW E 160 4 90 (20 (50 (55) (75)	12 16 2	250-SG RT 5-16 30-25 3 690 8/8 30/30 36/36	0, 0	NF250 R 125- 3 69 8. 30. 30. 36.	-SGW E -250 4 90 8 30 36 36 36	1 1 2	RT 25–16 60–25 3 690 20/20 50/50 65/65	60 50 4 0 5 5	NF250 R 125- 3 69 20/ 50/ 65/	-HGW E -250 4 90 /20 /50 /65 /75
short-circuit B N Bater capacity (kA) at M N Bater	ed current In Iber of poles id insulation	AC (50/60Hz)	690V 500V 440V 400V	12 2 3 3 4 40/40	RT 25–16 3 690 20/20 50/50 65/65 75/75 00/10	4	NF160 80- 3 200 500 65 75	HGW E 160 4 20 20 50 65 75 75 7100	12 16 2	250-SC RT 5-16 50-25 3 690 8/8 30/30 36/36 36/36 35/85	0, 0	NF250 R 125- 3 69 8. 30. 36. 36. 36.	-SGW E -250 4 90 '8 '30 '36 '36 '36 '85	1 1 2	RT 25–16 60–25 690 20/20 50/50 65/65 75/75 00/10	60 50 4 0 5 5 0 0 0 5 5 0 0	NF250 R 125- 3 69 20/ 50/ 65/ 75/	-HGW E -250 4 90 /20 /50 /65 /75
short-circuit B N Bater capacity (kA) at M N Bater	ed current In Iber of poles id insulation	voltage U	690V 500V 440V 400V 230V	12 2 3 3 4 40/40	RT 25–16 3 690 20/20 50/50 65/65 75/75	4	NF160 R 80- 3 65 20, 50, 65, 75, 100,	-HGW E 160 4 00 (20 (50 (50 (55) (75) (100) -	12 16 2	250-SG RT 5-16 50-25 3 690 8/8 30/30 36/36 36/36	0, 0	NF250 R 125- 3 65 8, 30, 36, 36, 36, 85	-SGW E -250 4 00 8 8 30 36 36 85 -	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	RT 25–16 60–25 690 20/20 50/50 65/65 75/75 00/10	60 50 4 0 5 5 0 0 0 5 5 0 0	NF250 R 125- 3 69 20/ 50/ 65/ 75/	-HGW E -250 4 90 /20 /20 /20 /20 /20 /20 /20 /20 /20 /2
short-circuit B and Capacity (kA) at a capacity (kA)	ed current In Iber of poles id insulation	AC (50/60Hz)	690V 500V 440V 400V 230V 300V	12 2 3 3 4 40/40	RT 25–16 3 690 20/20 50/50 65/65 75/75 75/75 00/10 - 40/40	0	NF16C R 80	-HGW E 160 4 30 720 750 755 775 7100	12 16 2	250-SC RT 516 3025 3 690 8/8 30/30 36/36 36/36 36/36 35/85 	0, 0 4	NF250 R 125- 3 65 8, 30, 36, 36, 36, 36, 36, 36, 36, 36, 36, 36	-SGW E -250 4 -250 8	1 1 2 - -	RT 25–16 60–25 690 20/20 50/50 65/65 75/75 00/10	60 50 4 0 5 5 0 0 0 5 5 0 0	NF250 R 125- 3 69 20/ 50/ 65/ 75/ 100/	-HGW E -250 4 90 (20 (50 (65 (75) (100 - -
braking capacity (kA) and a braking capacity (kA) braking capacity	ed current In Iber of poles id insulation	voltage U AC (50/60Hz) DC *1	690V 500V 440V 230V 300V 500V 600V	12 2 3 40/40 -	RT 25–16 3 690 20/20 50/50 65/65 75/75 75/75 00/10 - 40/40	0 4 0 -	NF16C R 80- 3 65 20, 50, 65,57 75, 100, -	-HGW E 160 4 30 (20 (50 (65 (75) (100 - -	12 16 2 3 3 3 20/20 -	250-SC RT 516 3025 3 690 8/8 30/30 36/36 36/36 36/36 35/85 	0, 0 4 	NF250 R 125- 3 65 8, 30, 36, 36, 36, 36, 36, 7 -	-SGW E -250 4 -250 8 8 30 336 336 336 336 - -	1 1 2 - -	RT 25-10 60-29 3 690 20/20 50/50 65/65 75/75 00/10 40/40	60 50 4 0 5 5 5 5 00 - -	NF250 R 125- 3 65 20/ 50/ 65/ 75/ 100/	-HGW E -250 4 90 (20 (50 (65 (75) (100) - - -
Tated short-circuit B N N Barking capacity (kA) applies and the structure of the short of the sh	led current In liber of poles d insulation lEC 60947-2 (Icu/Ics)	voltage U AC (50/60Hz) DC *1 lation -/-	690V 500V 440V 230V 300V 500V 600V	12 2 3 40/40 -	RT 3 690 20/20 50/50 65/65 75/75 75/75 75/75 40/40 -	0 4 0 -	NF16C R 80- 3 65 200 65 65 755 1000	HGW E 160 220 550 655 775 7100 - -	12 16 2 3 3 3 20/20 -	250-SC RT 5-16 30-25 3 690 8/8 30/30 36/36 36/36 36/36 35/85 	0, 0 4 	NF250 R 125- 3 65 8, 30, 36, 36, 36, 36, - -	-SGW E -250 4 -250 8 8 30 36 36 36 85 - - -	1 1 2 - -	RT 25-10 60-29 3 690 20/20 50/50 65/65 75/75 00/10 40/40	60 50 4 0 5 5 5 5 00 - -	NF250 Rl 125	-HGW E -250 4 20 750 755 7100 - - -
Rated short-circuit B N N Stated short-circuit B N N Stated short-circuit S N S N S N S N S N S N S N S N S N S	Elec 60947-2 (Icu/Ics)	voltage U AC (50/60Hz) DC *1 lation -/-	690V 500V 440V 230V 300V 500V 600V	12 2 3 40/40 -	RT 3 690 20/20 50/50 65/65 75/75 00/10 - 40/40 - •	0 4 0 -	NF160 80- 3 200 500 650 755 1000	-HGW E 160 4 90 20 50 65 75 1100 - -	12 16 2 3 3 3 20/20 -	250-SC RT 5-16 60-25 3 690 8/8 30/30 36/36 36/36 36/36 35/85 	0, 0 4 	NF250 R 125- 3 8 8 8 30, 36, 36, 36, 36, 36, 36, 36, 36, 36, 36	-SGW E -250 4 00 -250 30 36 36 36 85 - - -	1 1 2 - -	RT 25-16 60-25 690 20/20 50/50 65/65 75/75 00/10 40/40 -	60 50 4 0 5 5 5 5 00 - -	NF250 R 125- 3 65 20/ 65/ 75/ 100/ - -	-250 -250 /20 /50 /65 /75 /100 - -
add Short-circuit and Short-circuit Bate Short-circuit Bate Short-circuit (KA) Bate Short-Circuit Short Shor	IEC 60947-2 (Icu/Ics)	voltage U AC (50/60Hz) DC *1 lation -/h pry (terminals u	690V 500V 440V 230V 300V 500V 600V <del>X</del> -	12 2 3 40/40 -	RT 25-16 3 690 20/20 50/50 65/65 75/75 00/10 - 40/40 - A	0 4 0 -	NF160 80- 3 200 500 650 750 1000 - - - - - - - - - - - - - - - - -	HGW E 160 4 30 720 750 765 705 7100 - -	12 16 2 3 3 3 20/20 -	250-SG RT 516 30-25 3 690 8/8 30/30 36/36 36/36 35/85 	0, 0 4 	NF250 R 125- 3 88- 300 360- 360- 855- - - - - - - - - - - - - - - - - -	-SGW E -250 4 -250 8 30 30 36 85 - - -	1 1 2 - -	RT 25-16 60-25 690 20/20 50/50 65/65 75/75 00/10 40/40 - A	60 50 4 0 5 5 5 5 00 - -	NF250 R 125- 3 20/ 50/ 65/ 75/ 100/ - -	-250 4 20 750 755 7100 - -

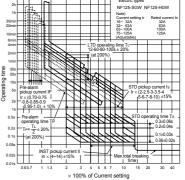
\*1: Use either 2-pole. When wired as shown at the bottom of page 13, 3-pole models can be used for up to 500 V DC, and 4-pole models for up to 600V DC.

### ■Operating Characteristics











Ambient temperature (°C) (rated ambient 40°C)

Mounting screw :  $M4 \times 0.7 \times 73$  (4pcs)

Insulation barrier : (2P : 2pcs, 3P : 4pcs, 4P : 6pcs)

(Front connection)

RT type

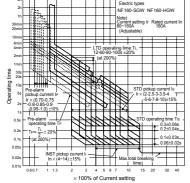
ating

Current

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

(%)

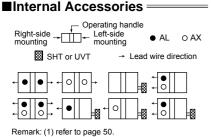
Derating of Load current



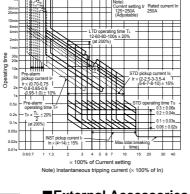
Note) Instantaneous tripping current (× 100% of In)

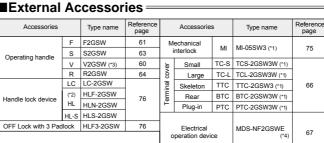
### External Accessories

Electric types NF250-SGW NF250-HGW



### Based on Mitsubishi MCCB Datasheet



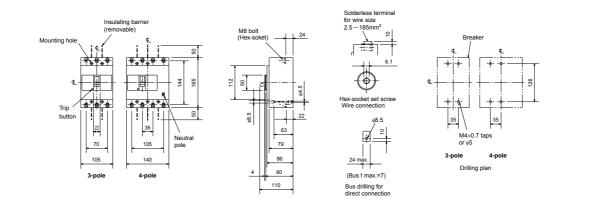


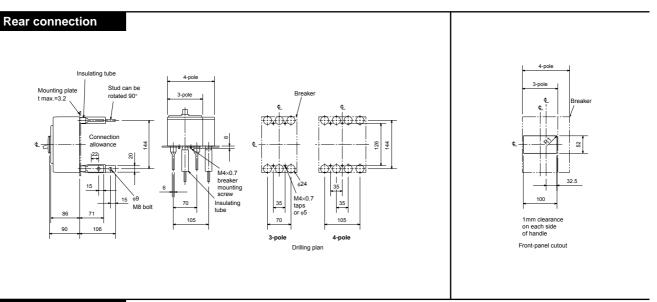
#### 130 120 110 100 90 80 70 10 20 30 40

Ambient temperature (°C) Standard Attached Parts =

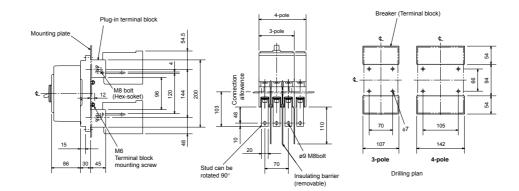
- Notes: (\*1) The designation depends on the number of poles. Refer to the reference page. (\*2) HLF types are used for OFF-lock, and HLN types for ON-lock. (\*3) Attach the letter "F" to the
- (3) Attach the letter 1 to the end of designation for a fixed type.
   (\*4) Specify the working voltage

### Front connection





### Plug-in



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

2h 1h

30min 20min 14min 10min 6min 4min

2min

1min 30s 20s

10s 5s

2s 1s

0.5s

0.2s

0.1s

0.05s

0.02

0.01s

Operating time

**Molded-Case Circuit Breakers** 

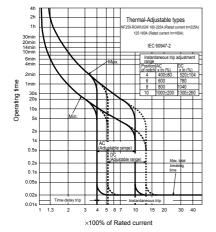
#### NF250-RGW NF250-UGW NF125-RGW NF125-UGW



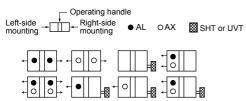
Type NF250-UGW

Туре г	name			NF125 R		NF1	25-U0 RT	θW	NF250 R		NF2	250-U0 RT	GW	
Rated	current In (Amp	.)			25–40 63–100		25 25 33 63-			–160 –225	125–160 160–225			
Numb	nber of poles			2	3	2	3	4	2	3	2	3	4	
Rated	insulation voltag	le Ui (V)		69	90		690		69	90		690		
690V				25	/25		30/30		25	/25		30/30		
ŧ	<ul> <li>₹</li> <li>500V</li> </ul>				/125	2	200/200			/125	2	160–225 2 3 4		
ty (I	AC (50/60Hz	AC (50/60Hz)	440V	125/125		200/200		125	/125	2	200/20	0		
short-circuit capacity (kA)	IEC60947-2	(00,00112)	400V	125/125		200/200		125/125		200/200		0		
l she	(Icu/Ics)		230V	125	/125	2	00/20	0	125	/125	200/200		0	
Rated braking			300V	-	-	-			-		-			
bra		DC	500V	-		-		-		-				
			600V	-		-			-		-			
Suitab	ility for isolation	<b>~</b> ₩				•			•		•			
Utiliza	tion category			A	4	A			A		A			
Revers	Reverse connection (terminals unmarked)						٠				•			
Rated	impulse withstar	nd voltage U	imp (kV)	8		8		8		8				
Polluti	on degree			3		3			3	3	3			

### ■Operating Characteristics



### ■Internal Accessories

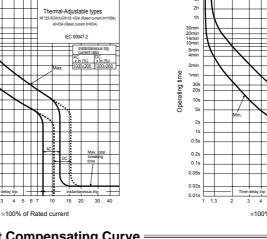


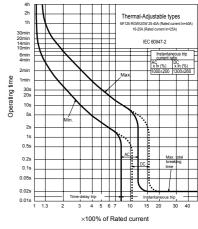
Remark: (1) refer to page 50

### ■External Accessories

Accessories		Type name	Reference page		Accessories		Type name	Reference page
	F	_	_	L	Small	TC-S	TCS-2GSW3W (*1)	
Operating handle	s	—		covei	Large	TC-L	TCL-2GSW3W (*1)	
	V	V2GUW	60	a	Skeleton	TTC	TTC-2GSW3 (*1)	66
	R	R2GUW	64	ermin	Rear	BTC	BTC-2GSW3W (*1)	
Mechanical interlock	MI	MI-05SW3 (*1)	75	⊢	Plug-in	PTC	PTC-2GSW3W (*1)	
Electrical operation d	levice	_	-			LC	LC-2GSW	
				н	andle lock	(*2)	HLF-2GSW	76
					device	HL	HLN-2GSW	/0
						HL-S	HLS-2GSW	

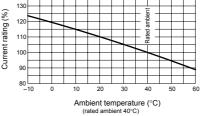
Notes: (\*1) The designation depends on the number of poles. Refer to the reference page (\*2) HLF and HLS types are used for OFF-lock, and HLN types for ON-lock.





### ■Ambient Compensating Curve

4

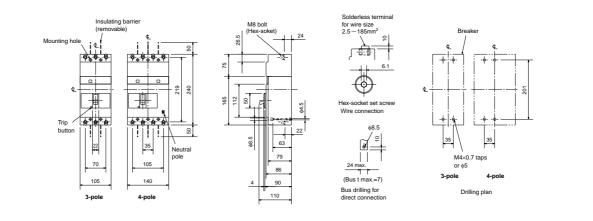


Standard Attached Parts = (Front connection)

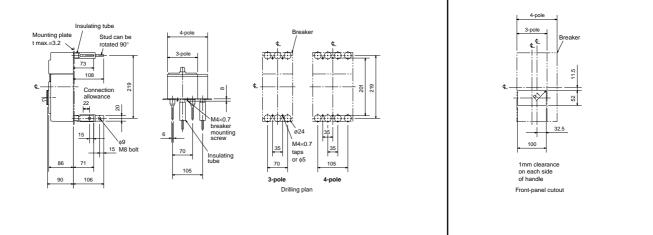
Mounting screw: M4×0.7×73 (4pcs) Insulation barrier: (2P: 2pcs, 3P: 4pcs, 4P: 6pcs)

### Based on Mitsubishi MCCB Datasheet

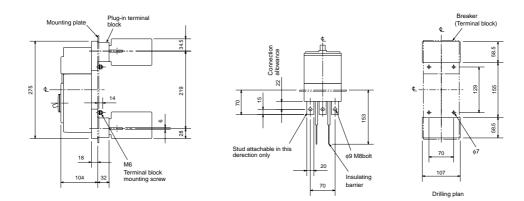
### Front connection







### Plug-in



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

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**Molded-Case Circuit Breakers** 

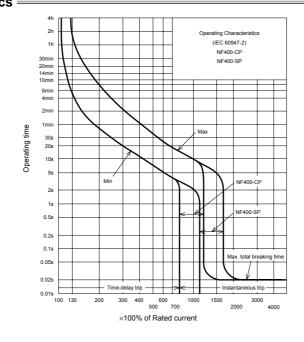
### NF400-CP NF400-SP



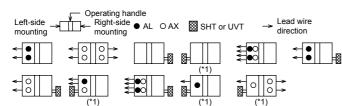
NF400-CP NF400-SP Type name Rated current In (Amp.) 250 300 350 400 Number of poles 2 3 2 3 4 Rated insulation AC 600 690 voltage Ui (V) DC(\*1) 250 250 690V 10/10 Rated short-circuit breaking capacity (kA) 500V 15/8 30/30 IEC 60947-2 25/13 42/42 440V AC (Icu/Ics) 400V 36/18 45/45 85/85 230V 50/25 40/40 DC 250V 20/10

Note: (1)Types of DC specifications can be produced upon request.

### ■Operating Characteristics



#### ■Internal Accessories



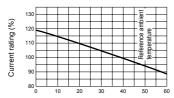
Note: (\*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting. Remark: (1) refer to page 51.

#### External Accessories

(An order for 🛱 should	d be pl	aced at the same	e time as an	orde	er of circuit br	eaker m	ain body.)	
Accessories		Type name	Reference page		Accessorie	es	Type name	Reference page
	F	F4SPW	61	cover	Large	(TC-L)	TCL-4SP3W (*1)	
Operating handle	S	S4CP, S4SP	63	Terminal o	Skeleton	(TTC)	TTC-4SP3 (*1)	66
	V	V4SPWF, V4SPW	60	Terr	Rear	(BTC)	BTC-4SP3W (*1)	
Mechanical interlock	(MI)	MI-4SP3 (*1)	75		ndle	HL	HL-4CP, HL-4SP	76
Auxiliary handle (HT)		HT-4CP, HT4SP	76	lock	device	HL-S	HLS-4SP	10
			,0	Elec	ctrical operatio	n device	☆	67

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

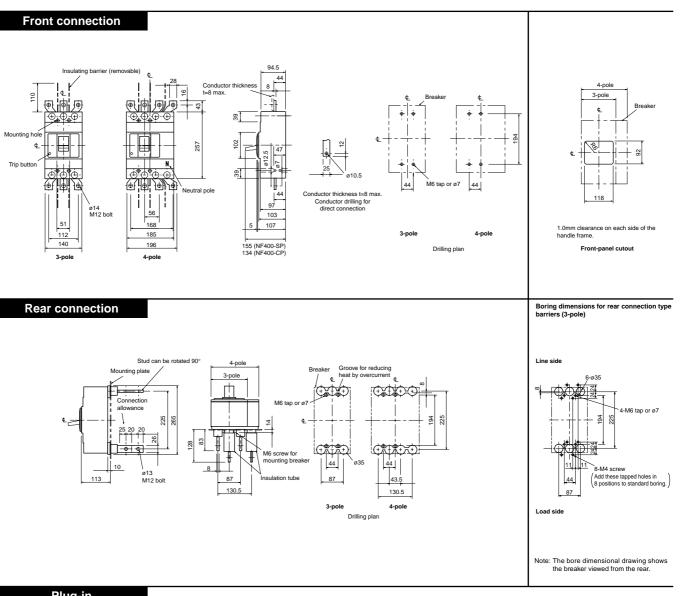
### ■Ambient Compensating Curve



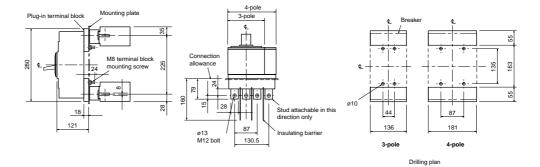
(Reference ambient temperature 40°C) Ambient temperature (°C)

### 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)







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

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**Molded-Case Circuit Breakers** 

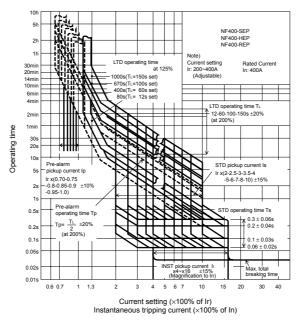
### NF400-SEP NF400-HEP NF400-REP



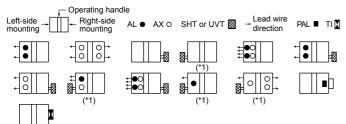
Туре	name			NF40	)-SEP	NF40	)-HEP	NF400-REP
Rateo	d current In (/	Amp.)				200 adjus		
Numb	per of poles			3	4	3	4	3
Reted i	insulation voltage	e Ui (V)	AC	69	90	69	90	690
uit (kA)			690V	10	/10	10	/10	15/10
			500V	30	/30	50	/50	70/35
short-circ capacity	IEC 60947-2	AC	440V	42	42	65	65	125/63
d shi g ce	ଞ୍ଚ (Icu/Ics)		400V	45	45	70	70	125/63
atec akin	Dreaking s		230V	85	/85	100	/100	150/75
bre R			250V	-	-	-	-	_

Type NF400-SEP

### ■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 51.

#### External Accessories =

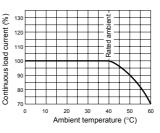
(An order for  $\stackrel{\scriptscriptstyle A}{\succ}$  should be placed at the same time as an order of circuit breaker main body.)

Accessories		Type name Reference page			Accessorie	es	Type name	Reference page
	F	F4SPW	61	cover	Large	(TC-L)	TCL-4SP3W (*1)(*2)	
Operating handle	S	S4SP	63	al al	Skeleton	(TTC)	TTC-4SP3 (*2)	66
	V	V4SPWF, V4SPW	60	Termi	Rear	(BTC)	BTC-4SP3W (*1)(*2)	
Mechanical interlock	(MI)	MI-4SP3 (*2)	75	Har	ndle	HL	HL-4SP	76
Auxiliary handle	(HT)	HT-4SP	76	loch	device	HL-S	HLS-4SP	70
				Ele dev	ctrical operat ice	ion	\$	67

Notes: (\*1) This is for NF400-SEP.

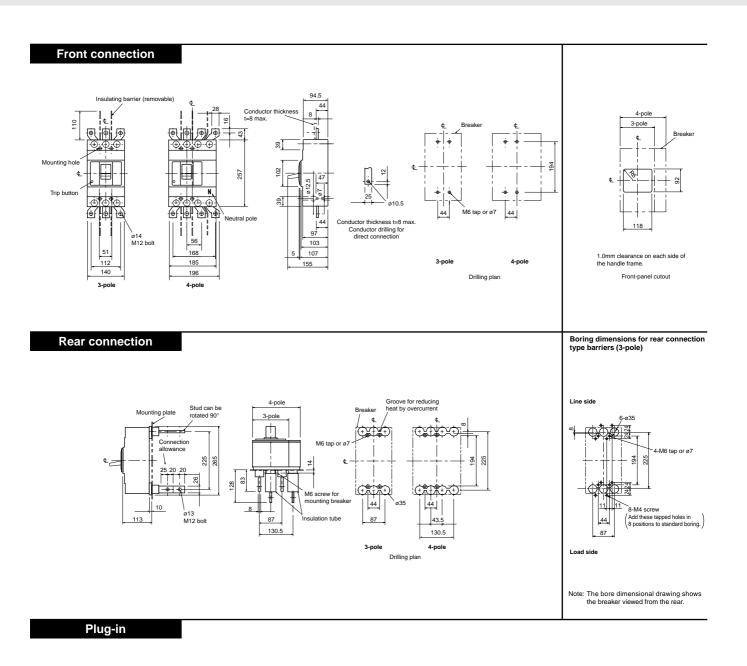
(\*2) The designation depends on the number of poles. Refer to the reference page.

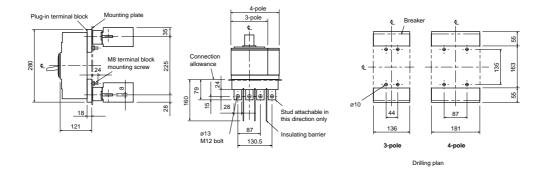
### ■Temperature Characteristics



### Standard Attached Parts =

Front connection	Mounting screw: $M6 \times 60$ (4pcs) Insulating barrier: (2P: 2pcs, 3P: 4pcs, 4P: 6pcs)
Rear connection	Mounting screw: $M6 \times 72$ (4pcs)





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**Molded-Case Circuit Breakers** 

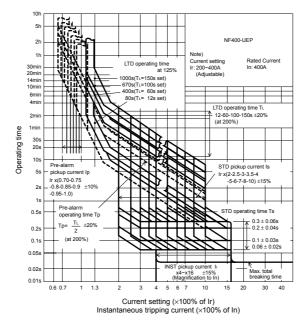
### NF400-UEP



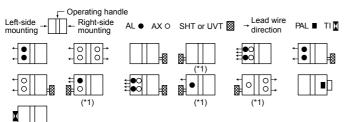
Туре	name			NF400-UEP																					
Rateo	Rated current In (Amp.)			200- adjus	-400 stable																				
Num	Number of poles			3 4																					
Rated insulation voltage Ui (V) AC			AC	690																					
short-circuit g capacity (kA)			690V	35	/35																				
ity (																							500V	170	/170
ort-c	IEC 60947-2	AC	440V	200/200																					
d sh	(Icu/Ics)		400V	200	/200																				
Rated s breaking			230V	200	/200																				
bre R		DC	250V	-	_																				

Type NF400-UEP

### ■Operating Characteristics



#### Internal Accessories =



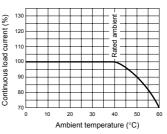
Note: (\*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side Remark: (1) Specification of 4-pole model is same as that of NF630-UEP. (2) refer to page 51.

### External Accessories

Accessories		Type name	Reference page		Accessorie	es	Type name	Reference page
	F	F4UPW (*1)	61	cover	Large	(TC-L)	TCL-4SP3W (*1)	66
Operating handle	S	S4SP	63	Terminal o	Skeleton	(TTC)	-	—
Mechanical interlock	(MI)	MI-4SP3 (*1)	75	Term	Rear	(BTC)	BTC-4SP3W (*1)	66
Auxiliary handle	(HT)	HT-4SP	76	Har	ndle	HL	HL-4SP	76
				locł	< device	HL-S	HLS-4UP	
				Ele dev	ctrical operat rice	tion	☆	67

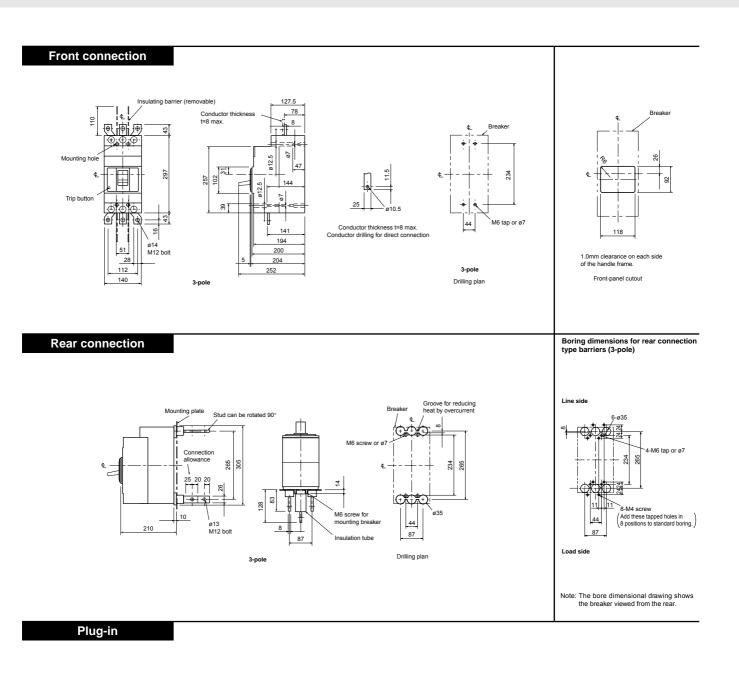
Note: (\*1)The designation depends on the number of poles. Refer to the reference page

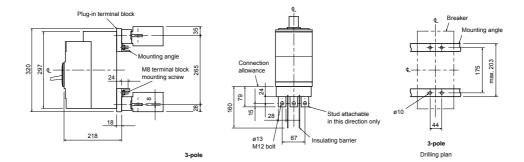
### ■Current reducing curve



### Standard Attached Parts

(4-pole mode	Is are provided with auxiliary handle.)
Front connection	Mounting screw: $M6 \times 65$ (2pcs), $M6 \times 162$ (2pcs) Insulating barrier: (3P: 4pcs, 4P: 3pcs)
Rear connection	Mounting screw: M6 × 72 (2pcs), M6 × 169 (2pcs)





Note (1): Overall dimension of 4-pole model is same as that of 4-pole model of NF630-UEP. Refer to page 32.

Molded-Case Circuit Breakers

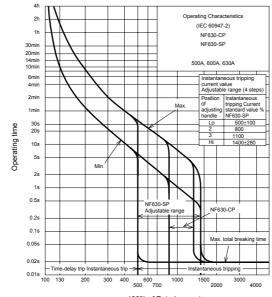
### NF630-CP NF630-SP



Туре	name			NF63	1	NF630-SP			
Rated	d current In (/	Amp.)			500 600 630				
Num	per of poles			2	3	2	3	4	
Reted insulation AC				6	00		690		
voltage Ui (V)			DC(*1)	250	-	250	250 –		
short-circuit g capacity (kA)			690V		-		10/10		
ity (			500V	18	3/9		30/30		
ort-c	IEC 60947-2	AC	440V	36	/18		42/42		
G (lcu/lcs)			400V	36	/18		45/45		
Rated s reaking			230V	50	/25		85/85		
Ъ,		DC	250V	20/10	-	40/40	-	-	

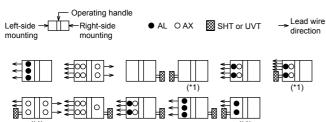
Note: (1) Types of DC specifications can be produced upon request.

### ■Operating Characteristics



×100% of Rated current

### Internal Accessories



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

### ■External Accessories

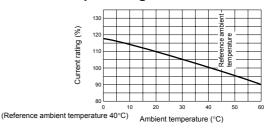
(\*1)

(An order for 🛱 should	d be pl	laced at the same	e time as an	orde	er of circuit br	eaker m	ain body.)	
Accessories		Type name	Reference page	Accessories		Type name	Reference page	
	F	F6SPW	Î1	cover	Large	(TC-L)	TCL-6SP3 (*1)	
Operating handle						TTC-6SP3 (*1)	66	
	V	V6SPWF, V6SPW	60	Terr	Rear	(BTC)	BTC-6SP3 (*1)	
Mechanical interlock	(MI)	MI-6SP3 (*1)	75		ndle	HL	HL-4SP	76
Auxiliary handle	(HT)	HT-4SP	76	loc	k device	HL-S	HLS-6SP	10
, axinary nandic	()		,0	Ele	ctrical operatio	n device	☆	67

(\*1)

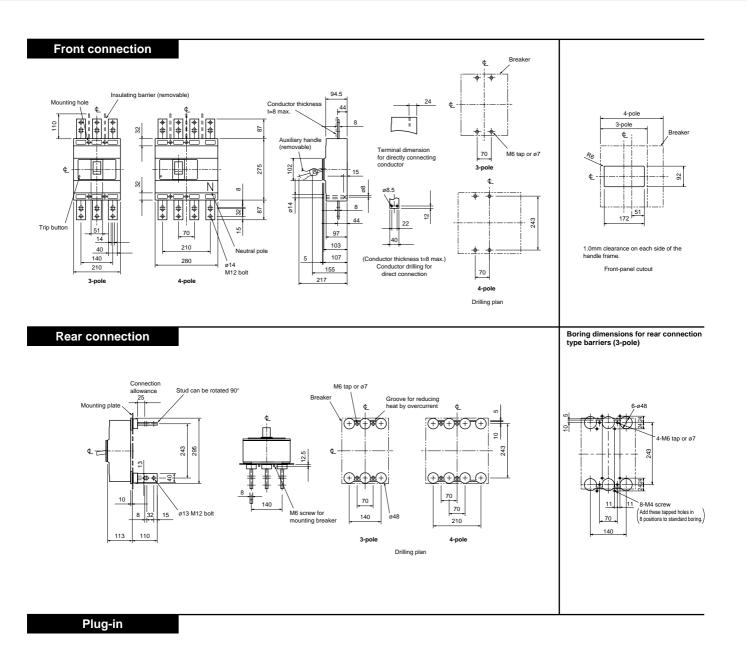
Note: (\*1) The designation depends on the number of poles. Refer to the reference page.

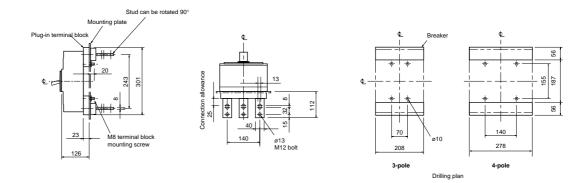
### ■Ambient Compensating Curve



### Standard Attached Parts =

(4-pole model	4-pole models are provided with auxiliary handle.)				
Front connection	Mounting screw: $M6 \times 35$ (4pcs) Insulating barrier: (2P: 1pc, 3P: 2pcs, 4P: 3pcs)				
Rear connection	Mounting screw: M6 × 40 (4pcs)				





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

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**Molded-Case Circuit Breakers** 

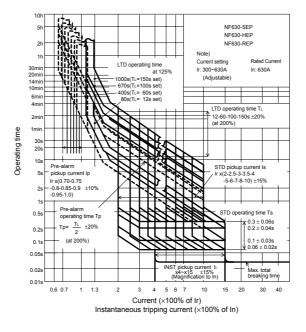
NF630-SEP NF630-HEP NF630-REP



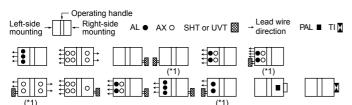
Туре	name			NF630-SEP		NF630	)-HEP	NF630-REP		
Rateo	Rated current In (Amp.)			300-630 adjustable						
Num	per of poles			3 4 3 4				3		
Reted insulation voltage Ui (V)			AC	690		690		690		
cuit (kA)			690V	10/10		15/15		20/15		
0.					500V	30	30/30		/50	70/35
short-circ capacity	IEC 60947-2	AC	440V	42	/42	65/65		125/63		
	(Icu/Ics)		400V	45	/45	70	70	125/63		
ated s aking			230V	85	/85	100	/100	150/75		
bre		DC	250V	-	-	-	-	_		

Type NF630-SEP

### ■Operating Characteristics



#### Internal Accessories



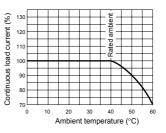
Note: (\*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting. Remark: (1) refer to page 51.

### External Accessories =

(An order for ☆ shoul	d be p	aced at the same	e time as an	orde	er of circuit br	eaker m	ain body.)	
Accessories		Type name Reference page			Accessories		Type name	Reference page
	F	F6SPW	61	cover	Large	(TC-L)	TCL-6SP3 (*1)	
Operating handle	S	S4SP	63	Terminal c	Skeleton	(TTC)	TTC-6SP3 (*1)	66
	V	V6SPWF, V6SPW	60	Term	Rear	(BTC)	BTC-6SP3 (*1)	
Mechanical interlock	(MI)	MI-6SP3 (*1)	75	Har	ndle	HL	HL-4SP	76
Auxiliary handle	(HT)	HT-4SP	76	lock	device	HL-S	HLS-6SP	10
				Ele dev	ctrical operat ice	ion	☆	67

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

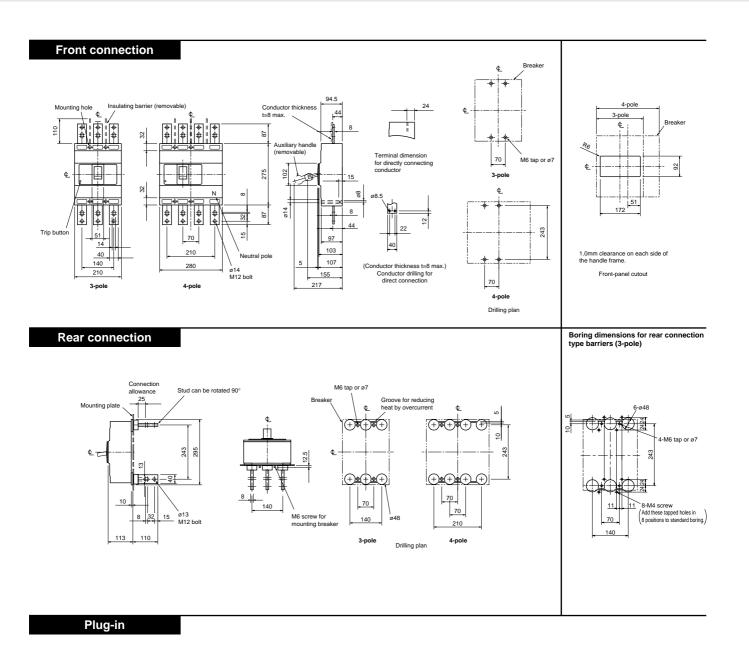
### ■Temperature Characteristics

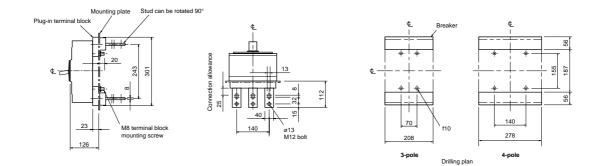


### Standard Attached Parts

(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: $M6 \times 40$ (4pcs)





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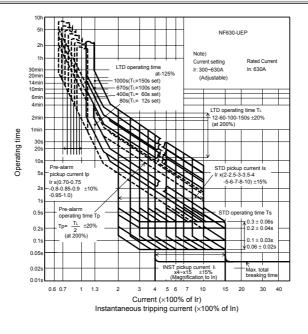
**Molded-Case Circuit Breakers** 

### NF630-UEP



Туре	name			NF630-UEP			
Rated current In (Amp.)				300-630 adjustable			
Number of poles				3 4			
Reted insulation voltage Ui (V) AC			AC	690			
¥, ii			690V	35/	/35		
ity (			500V	170/	/170		
short-circuit g capacity (kA)	IEC 60947-2	AC	440V	200/	/200		
d sh g ce	(Icu/Ics)		400V	200/	/200		
Rated s breaking			230V	200/	/200		
bre R		DC	250V	-	_		

### ■Operating Characteristics =



#### 

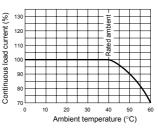
Note: (\*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting. Remark: (1) refer to page 51.

#### External Accessories

(An order for $\precsim$ 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
Onerating handle	F	F6UPW(*1)	61	cover	Large	(TC-L)	TCL-6UP3 (*1)	66
Operating handle	S	S4SP	63	Terminal c	Skeleton	(TTC)	-	_
Mechanical interlock	(MI)	MI-6SP3 (*1)	75	Term	Rear	(BTC)	BTC-6SP3 (*1)	66
Auxiliary handle	(HT)	HT-4SP	76	Handle HL lock device HL-S		HL	HL-4SP	76
						HL-S	HLS-6UP	10
				Electrical operation device			☆	67

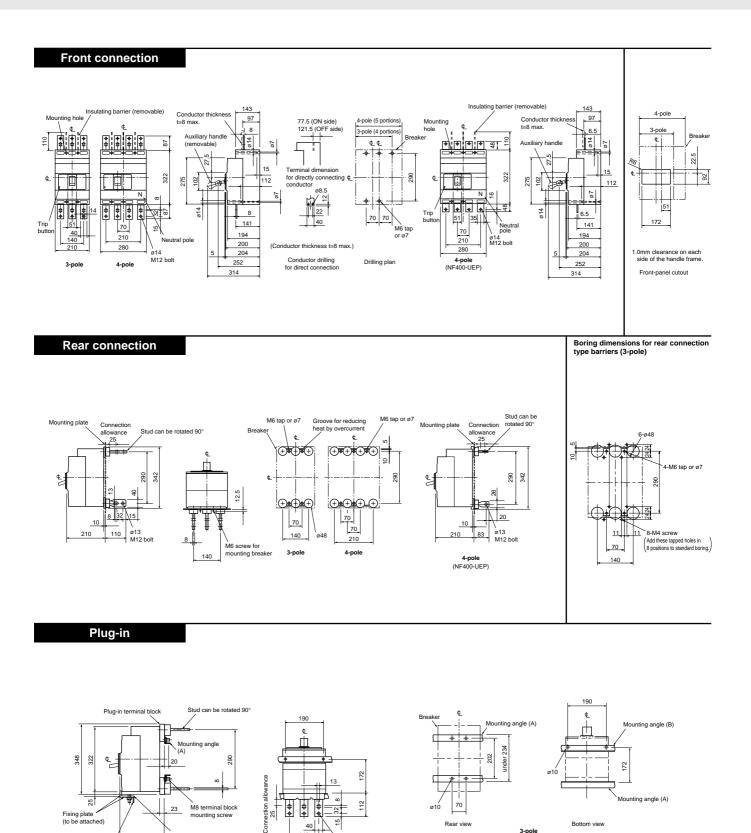
Note: (\*1) The designation depends on the number of poles. Refer to the reference page.

### ■Temperature Characteristics



### Standard Attached Parts

(4-pole models are provided with auxiliary handle.)						
Front connection	$\begin{array}{l} \mbox{Mounting screw:} \\ \mbox{3P: } M6 \times 35, \mbox{M6} \times 132 \mbox{ (2pcs each)} \\ \mbox{4P: } M6 \times 35 \mbox{ (3pcs)}, \mbox{M6} \times 132 \mbox{ (2pcs)} \\ \mbox{Insulating barrier: } \mbox{(3P: 2pcs, 4P: 3pcs)} \end{array}$					
Rear connection	Mounting screw: 3P: M6 × 40, M6 × 137 (2pcs each) 4P: M6 × 40 (3pcs), M6 × 137 (2pcs)					



112

70

Bottom view

3-pole

Drilling plan

#

140

4

40

5

<sup>o</sup>13 M12 bolt

**‡** ♦

23

223

M8 terminal block mounting screw

Fixing plate (to be attached)

Mounting angle (B)

M8 terminal block

mounting screw

Molded-Case Circuit Breakers

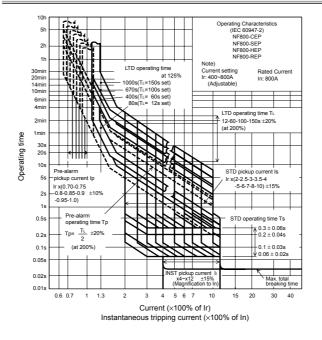
NF800-CEP NF800-SEP NF800-HEP NF800-REP



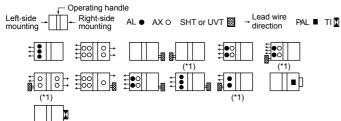
Type name			NF800-CEP	NF800-SEP		NF800	)-HEP	NF800-REP		
Rateo	d current In (A	Amp.)		400-800 adjustable						
Numb	per of poles			3 3 4 3 4 3						
Rated	Rated insulation voltage Ui (V) AC		600	690		690		690		
king		69		—	10/10		15/15		20/15	
V)			500V	18/9	30	/30	50	/50	70/35	
rcuit br ty (kA)	IEC 60947-2	AC	440V	36/18	42/42		65/65		125/63	
2) 2) 2) 20 20 20 20 20 20 20 20 20 20 20 20 20		400V	36/18	45/45		70/70		125/63		
Rated short-circuit breaking capacity (kA)	230V 50/25		85/85		100/100		150/75			
Rate		DC	250V	—	_		—		—	

Type NF800-SEP

### ■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 51.

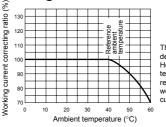
#### External Accessories =

(An order for  $\stackrel{\scriptscriptstyle\!\!\!\wedge}{\rightarrowtail}$  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
	F	F6SPW	61	cover	Large	(TC-L)	TCL-6SP3 (*1)	
Operating handle	S	S4SP	63		Skeleton	(TTC)	TTC-6SP3 (*1)	66
	V	V6SPWF, V6SPW	60	Terminal	Rear	(BTC)	BTC-6SP3 (*1)	
Mechanical interlock	(MI)	MI-6SP3 (*1)	75	Har	ndle	HL	HL-4SP	76
Auxiliary handle	(UT)	HT-4SP	76	locł	device	HL-S	HLS-6SP	10
Auxiliary Handle	(11)	111-431	70	Elec	ctrical operatio	n device	☆	67

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

### Current Reducing Curve

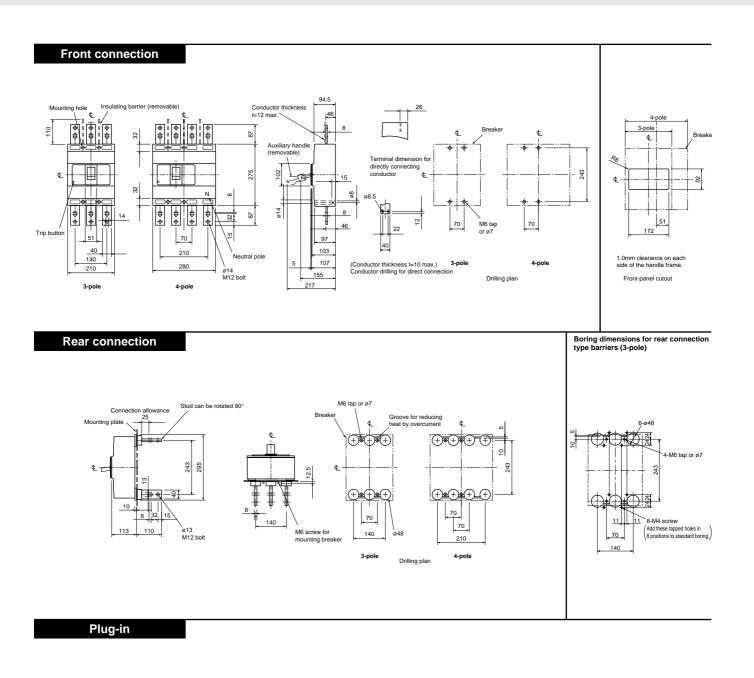


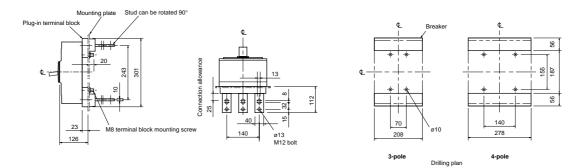
The rated current does not depend on temperature. However, if ambient temperature exceeds 40°C, reduce the continuous working current as left curve.

### Standard Attached Parts

(4-pole models are provided with auxiliary handle.)

Front connection	Mounting screw:	M6 × 35	(4pcs)
	Insulating barrier:	(3P: 2pcs, 4	4P: 3pcs)
Rear connection	Mounting screw:	M6  imes 40	(4pcs)





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**Molded-Case Circuit Breakers** 

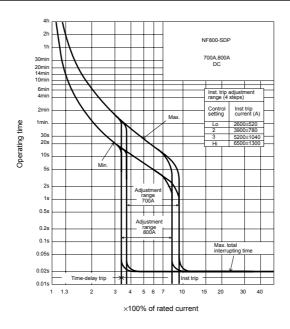
### NF800-SDP



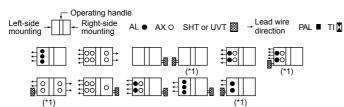
Type name		NF800-SDP			
Rated current In (Amp.)		(700), 800			
Number of poles		2			
Reted insulation voltage Ui (V)	DC	250			
tiny) IEC 60947-2 (Icu/Ics) Time constant S point larger than area Buyen 10msec	250V	40/40			

Type NF800-SDP

### Operating Characteristics =



#### Internal Accessories



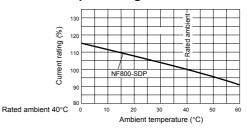
Note: (\*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting. Remark: (1) refer to page 51.

#### External Accessories =

Accessories		Type name	Reference page	Accessories		Type name	Reference page	
	F	F6SPW	61	cover	Large	(TC-L)	TCL-6SP3 (*1)	
Operating handle	S	S4SP	63	minal	Skeleton	(TTC)	TTC-6SP3 (*1)	66
	V	V6SPWF, V6SPW	60		Rear	(BTC)	BTC-6SP3 (*1)	
Mechanical interlock	(MI)	MI-6SP3 (*1)	75	Handle lock device		HL	HL-4SP	76
Auxiliary handle	(HT)	HT-4SP	76			HL-S	HLS-6SP	10
				Electrical operation device			☆	67

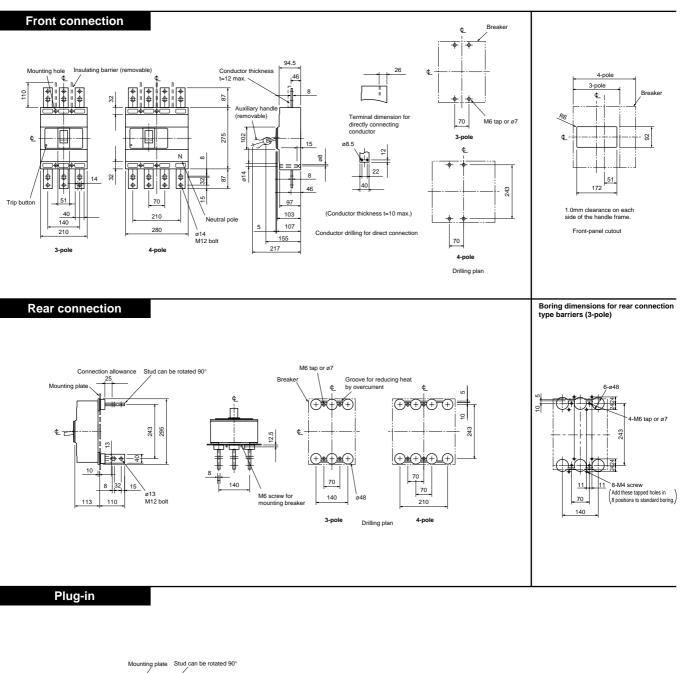
Note: (\*1) The designation depends on the number of poles. Refer to the reference page.

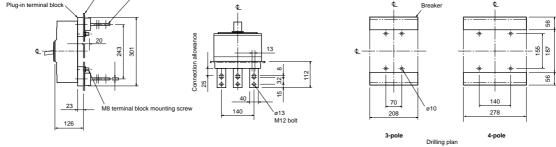
### ■Ambient Compensating Curve



### Standard Attached Parts =

(4-pole models are provided with auxiliary handle.)								
Front connection	Mounting screw: Insulating barrier: (2	M6 × 35 P: 1pc, 3P: 2pcs,	(4pcs) 4P: 3pcs)					
Rear connection	Mounting screw:	M6  imes 40	(4pcs)					





Remarks: (1) Standard specification of NF800-SDP 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.

# **Characteristics and Dimensions**

12485

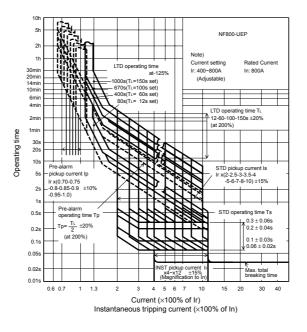
**Molded-Case Circuit Breakers** 

### NF800-UEP

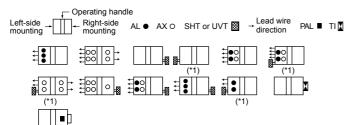


Type name				NF800-UEP		
Rated current In (Amp.)				400- adjus		
Number of poles				3	4	
Reted insulation voltage Ui (V) AC		690				
k) į			690V	35/	35	
circ(			500V	170/	170	
short-circuit capacity (kA)	IEC 60947-2	AC	440V	200/	200	
	(Icu/Ics)		400V	200/	200	
Rated : breaking			230V	200/	200	
bre R		DC	250V	_	-	

### ■Operating Characteristics =



#### Internal Accessories =



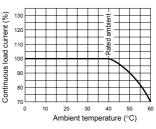
Note: (\*1) Right-side mounting is standard of SHT and UVT. Specify separately for left-side mounting. Remark: (1) refer to page 51.

#### External Accessories =

(An order for $\precsim$ should be placed at the same time as an order of circuit breaker main body.)								
Accessories	Accessories		Reference page		Accessorie	es	Type name	Reference page
	F	F6UPW(*1)	61	cover	Large	(TC-L)	TCL-6UP3 (*1)	66
Operating handle	S	S4SP	63	Terminal c	Skeleton	(TTC)	_	—
	V	—	—	Term	Rear	(BTC)	BTC-6SP3 (*1)	66
Mechanical interlock (MI)		MI-6SP3 (*1)	75	Handle H		HL	HL-4SP	76
Auxiliary handle	(HT)	HT-4SP	76	loc	k device	HL-S	HLS-6UP	10
				Ele dev	ctrical operat vice	lion	☆	67

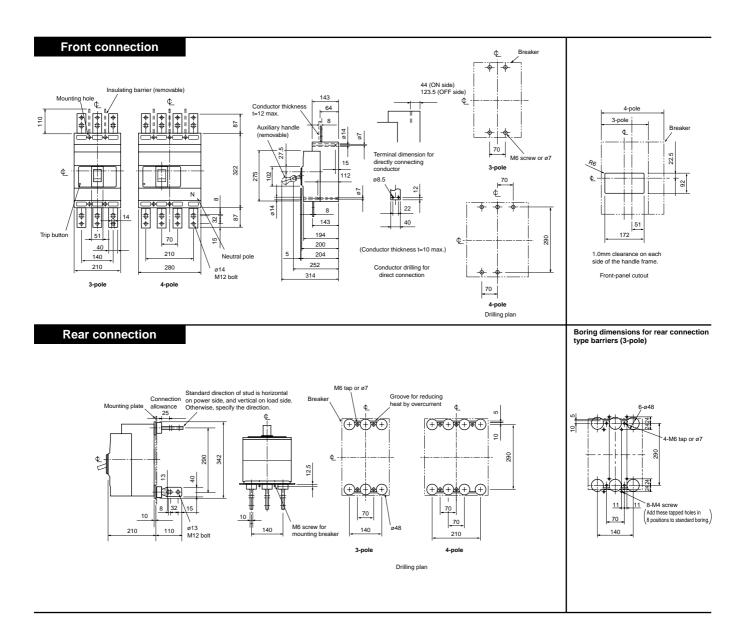
Note: (\*1) The designation depends on the number of poles. Refer to the reference page.

#### Current reducing curve



#### Standard Attached Parts =

(4-pole models are provided with auxiliary handle.)				
Front connection	$\begin{array}{llllllllllllllllllllllllllllllllllll$			
Rear connection	$\begin{array}{llllllllllllllllllllllllllllllllllll$			



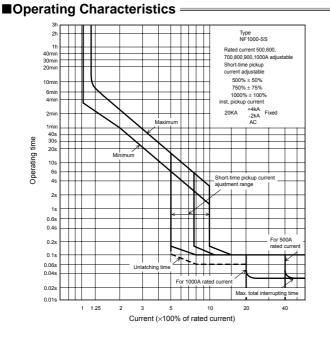
# **Characteristics and Dimensions**

**Molded-Case Circuit Breakers** 

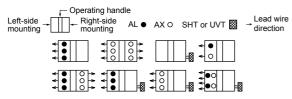
## NF1000-SS NF1250-SS



NF1000-SS NF1250-SS Type name Adjustable 500 600 Adjustable 600 700 Rated current In (Amp.) 700 800 900 1000 800 1000 1200 1250 Number of poles 3 4 3 4 Reted insulation voltage AC 660 660 Ui (V) DC Rated short-circuit breaking capacity (kA) 690V 25/13 25/13 500V 65/33 65/33 IEC 60947-2 AC 440V 85/43 85/43 400V 85/43 85/43 (lcu/lcs) 230V 125/63 125/63 DC 250V



## Internal Accessories =

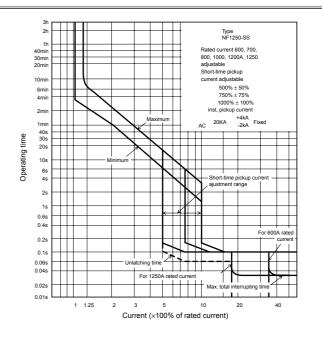


Remark: (\*1) refer to page 51.

## External Accessories =

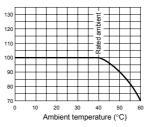
(An order for ☆ should be placed at the same time as an order of circuit breaker main body.)       Accessories     Type name       Reference page     Accessories       Type name     Reference page						
Operating handle	F	F100 (*1)	61	Auxiliary handle	HT-10SS	76
Operating handle	S	S100	63	Handle lock (HL)	☆	76
Mechanical interlock	(MI)	MI-10SS3 (*1)	75	Large terminal cover (TC-L)	TCL-10SS3 (*1)	66
		•		Electrical operation device	\$	67

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



## ■Current reduction curve

Continuous load current (%)



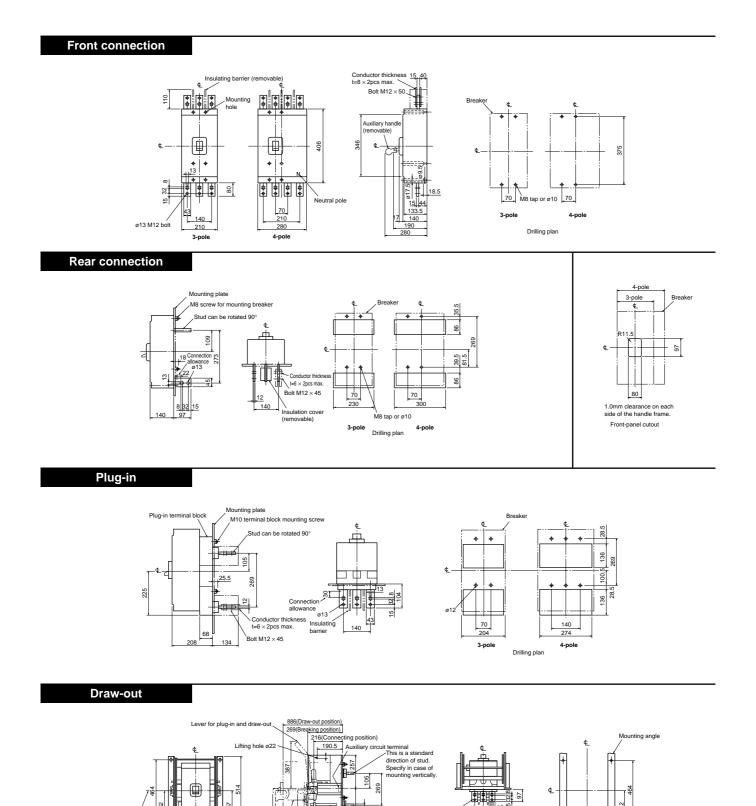
#### ■Rated current set available value (A) —

NF1000-SS	500, 600, 700, 800, 900, 1000
NF1250-SS	600, 700, 800, 1000, 1200, 1250

Rated current can be set to 6 steps and 5 steps with screw method.

#### Standard Attached Parts =

Front connection	Mounting screw: Insulating barrier: Auxiliary handle:	M8 × 40 (4pcs) (3P: 2pcs, 4P: 3pcs) (1pc)
Rear connection	Mounting screw: Insulating barrier: Auxiliary handle:	M8 × 40 (4pcs) (3P: 2pcs, 4P: 4pcs) (1pc)



257

arv circuit lead wire

of mounting ve

(Connecting po

on)

409(Breaking positi

1026(Draw-out pos

911.5

Rail

draw-o

43

320 mi

376

ally, insulation cover (removable) is attached to central pole

140

376

417

Mounting hole ø14

Center line of t

# **Characteristics and Dimensions**

Molded-Case Circuit Breakers

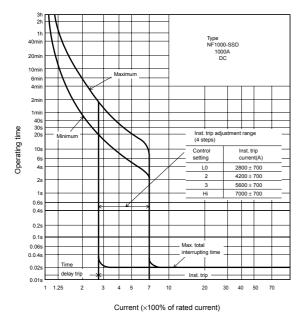
# NF1000-SSD NF1250-SSD



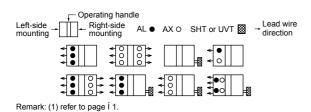
Type name	NF1000-SSD	NF1250-SSD
Rated current In (Amp.)	1000	1250
Number of poles	2	2
Rated insulation voltage Ui (V) DC	250	250
Rated short- circuit breaking capacity (KA) IEC 60947-2 (Icu/Ics) Time constant not larger than 10msec	40/20	40/20

Type NF1000-SSD

## ■Operating Characteristics (page 000) =



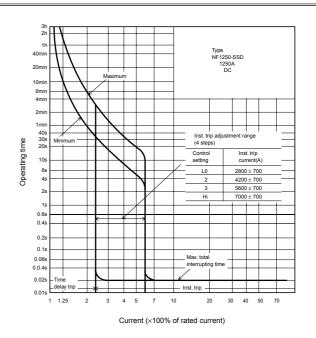
## Internal Accessories



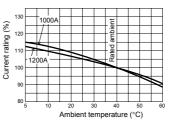
# External Accessories =

(An order for ${\Join}$ 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	F100 (*1)	61	Auxiliary handle	HT-10SS	76	
operating narrole	S	S100	63	Handle lock (HL)	\$	10	
Mechanical interlock	(MI)	MI-10SS3 (*1)	75	Large terminal cover (TC-L)	TCL-10SS3 (*1)	66	
				Electrical operation device	☆	67	

Notes: (\*1) The designation depends on the number of poles. Refer to the referenc page



## ■Ambient Compensating Curve



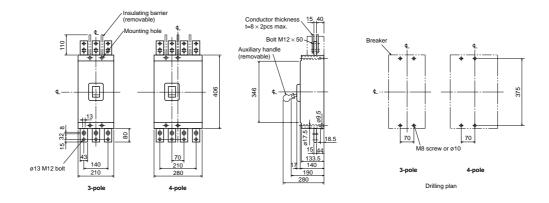
#### Standard Attached Parts

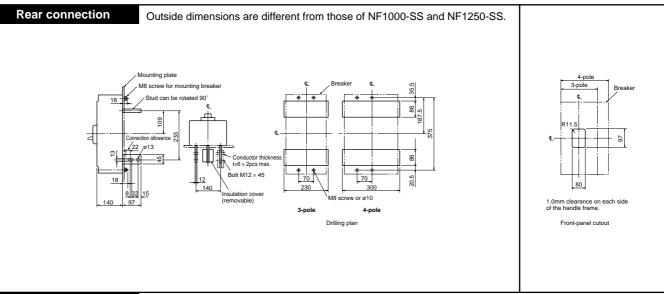
Front connection	Mounting screw: M8 × 40 (4pcs) Insulating barrier: (2P: 1pcs, 3P: 2pcs, 4P: 3pcs) Auxiliary handle: (1pc)
Rear connection	Mounting screw: M8 × 40 (4pcs) Insulating cover (3P: 2pcs, 4P: 4pcs) Auxiliary handle: (1pc)

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#### Front connection

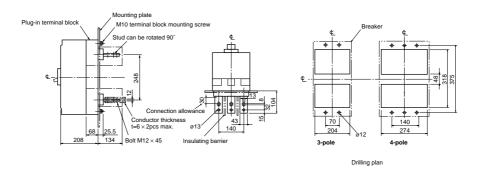
Outside dimensions are same as those of NF1000-SS and NF1250-SS.







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



Remarks: (1) Standard specifications of NF1000-SSD and NF1250-SSD are 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.

# **Characteristics and Dimensions**

12485

Molded-Case Circuit Breakers

### NF1250-UR

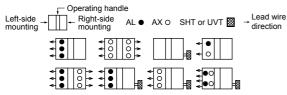


Туре	Type name			NF1250-UR		
Rateo	Rated current In (Amp.)			Adjustable 600, 700, 800, 1000, 1200, 1250		
Numb	Number of poles			3	4	
Reted	Reted insulation voltage Ui (V) AC		690			
k∮ ≓			690V	-	-	
ity (			500V	85/	/42	
ort-o	IEC 60947-2	AC	440V	125	5/65	
Rated short-circuit eaking capacity (kA)	(Icu/Ics)		400V	125	5/65	
Rated s breaking			230V	170	)/85	
bre R		DC	250V	-	-	

Type NF1250-UR

#### Operating Characteristics -Type NF1250-UR Rated current 600,700,800,1000, 1200,1250A adjustable Short-time pickupcurrent adjustable 30r 20n he pickupcurren augusta 500% ± 50% 750% ± 75% 1000% ± 100% kup current adjustable 20kA +4kA -2kA 10n 6m 2r 40: 30: 20: Operating time me pickup 0.4 For 600 0.2 0.1 0.0.4 0.0 0.01 1 1.25 2 3 4 5 7 10 20 30 40 60 Current (×100% of rated current)

#### Internal Accessories =



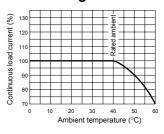
Remark: (1) refer to page 51.

#### External Accessories =

Accessories		Type name	Reference page	Accessories	Type name	Reference page
Operating handle	F	F120UR (*1)	61	Auxiliary handle	HT-10SS	76
	S	S100	63	Handle lock (HL)	☆	70
Mechanical interlock	(MI)	MI-12UR3 (*1)	75	Large terminal cover (TC-L)	TCL-12UR3 (*1)	66
				Electrical operation device	\$	67

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

#### ■Current reducing curve



#### Rated current set available value (A) —

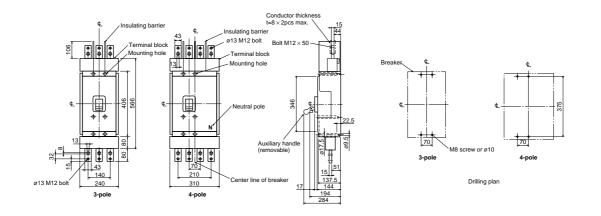
NF1250-UR 600, 700, 800, 1000, 1250

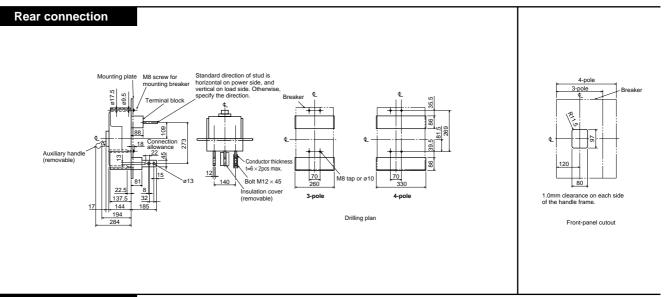
Rated current can be set to 5 steps with screw method.

#### Standard Attached Parts =

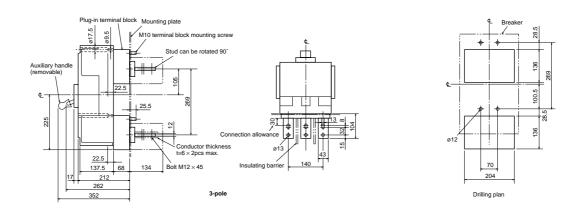
Front connection	Mounting screw: M8 × 45 (4pcs) Insulating barrier: (3P: 2pcs, 4P: 3pcs) Auxiliary handle: (1pc)
Rear connection	Mounting screw: M8 × 45 (4pcs) Insulating cover: (3P: 2pcs, 4P: 4pcs) Auxiliary handle: (1pc)

#### **Front connection**





### Plug-in



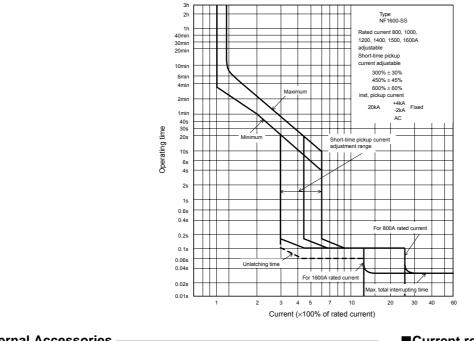
# **Characteristics and Dimensions**

**Molded-Case Circuit Breakers** 

# NF1600-SS

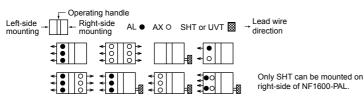


NF1600-SS Type name Adjustable Rated current In (Amp.) 800, 1000, 1200, 1400, 1500, 1600 Number of poles 3 4 Reted insulation voltage AC 660 Ui (V) DC Rated short-circuit breaking capacity (kA) 690V 25/13 500V 65/33 IEC 60947-2 AC 440V 85/43 (Icu/Ics) 85/43 400V 230V 125/63 DC 250V \_



## Internal Accessories

Operating Characteristics -



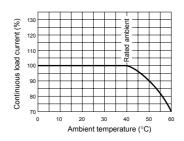
Remark: (1) refer to page 51.

#### External Accessories =

(An order for $ m cm$ 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	F100 (*1)	61	Auxiliary handle	HT-10SS	76		
Operating nariole	S	S100	63	Handle lock (HL)	☆	70		
Mechanical interlock (MI)		MI-16SS3 (*1)	75	Electrical operation device	☆	67		

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

#### ■Current reducing curve



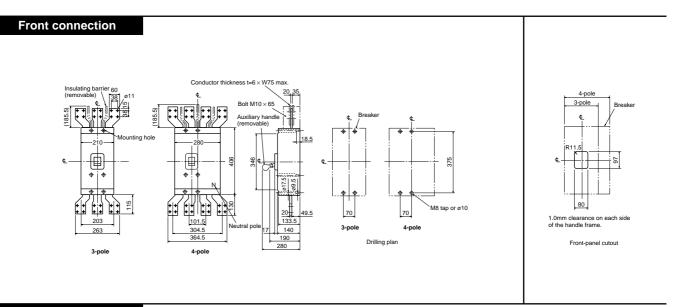
#### ■Rated current set available value (A) —

NF1600-SS NF1600-PAL	800, 1000, 1200, 1400, 1500, 1600
-------------------------	-----------------------------------

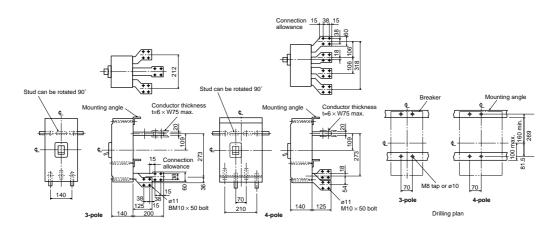
Rated current can be set to 6 steps with screw method.

#### Standard Attached Parts =

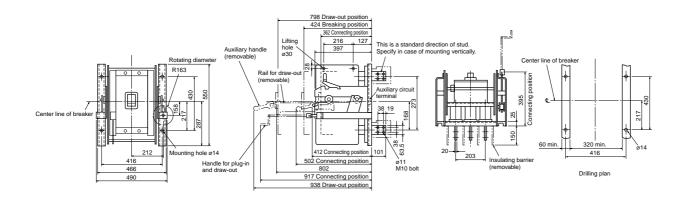
Front connection	Mounting screw: M8 × 40 (4pcs) Insulating barrier: (3P: 2pcs, 4P: 3pcs) Auxiliary handle: (1pc)
Rear	Mounting screw: M8 × 40 (4pcs)
connection	Auxiliary handle: (1pc)



#### **Rear connection**



#### Draw-out



Remarks: (1) Draw-out is only for 3-pole models of NF1600-SS.

# **Characteristics and Dimensions**

Molded-Case Circuit Breakers

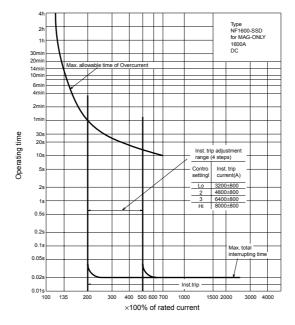
## NF1600-SSD



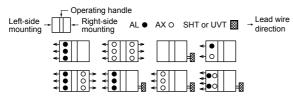
NF1600-SSD Type name Rated current In (Amp.) 1600 Number of poles 2 Reted insulation voltage Ui (V) 250 DC Rated shortcircuit breaking capacity (kA) IEC 60947-2 40/20 DC 250V (lcu/lcs) Time constant not larger than 10msec

Type NF1600-SSD

## Operating Characteristics =



#### ■Internal Accessories



Remark: (1) refer to page 51.

#### External Accessories =

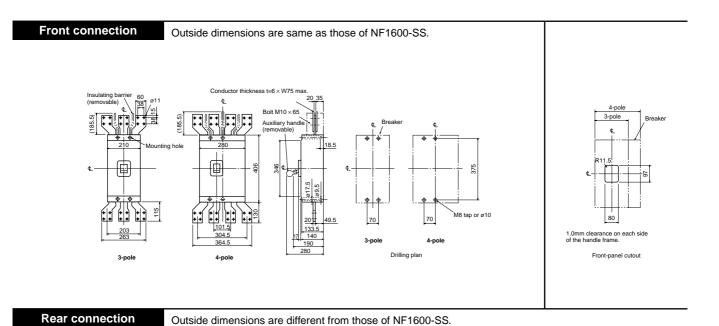
(An order for $\sqrt{2}$ shou	ild he placed	at the same time as an o	rder of circuit breaker main body.)
	and be placed		fuci of circuit breaker main body.)

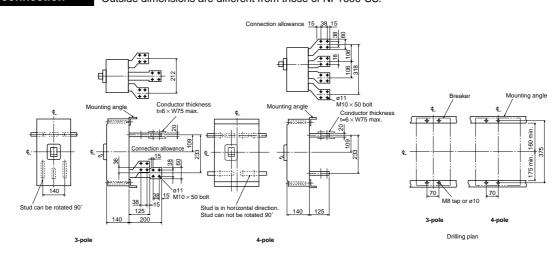
Accessories		Type name	Reference page	Accessories	Type name	Reference page
Operating handle		F100 (*1)	61	Auxiliary handle	HT-10SS	76
operating narraic	S	S100	63	Handle lock (HL)	☆	10
Mechanical interlock	(MI)	MI-16SS3 (*1)	75	Electrical operation device	\$	67
Nister (#4) The design	Note: (#4) The design disc and a set the number of solar. Defends the reference					

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

#### 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)





Remarks: (1) Standard specification of NF1600-SSD 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.

# 1. Accessories

Table 5-1: Accessories

In	ternal accessories	Function	Applicable models	Cassette-type of accessories
AL	Alarm switch	· · · · · · · · · · · · · · · · · · ·		•
AX	Auxiliary switch	A switch that electrically indicates the ON-OFF status of the circuit breaker.	NV-C·S·H·U and MB series	•
SHT	Shunt trip	A device that electrically trips the circuit breaker from a remote distance. Permissible working voltages are 70 to 110% of the AC rated voltage or 70 to 125% of the DC rated voltage.	NF-C·S·H·U and MB series	•
UVT	Undervoltage trip	A device that automatically trips the circuit breaker if the voltage is lowered. Working voltages are 70 to 35% of the UVT rated voltage. When the voltage recovers to 85% or higher, you can reset the device and put into operation.	NF-C·S·H·U, (Note 1) NV-C·S·H·U and MB series	•
EAL	Earth-leakage alarm switch	A switch that electrically indicates the trip status of the earth leakage circuit breaker caused by a ground fault. If 250AF and less, This switch is available only for models with the vertical lead-wire terminal unit (SLT).	NV-C·S·H·U	-
ТВМ	Test button module	This module allows you a remote testing by applying a voltage. An external sequence common to SHT can be used. (The standard configuration requires the vertical lead-wire terminal unit (SLT).)	NV-C·S·H·U	_
MG	Insulation switch	The incorporation of this switch enables the measurement of insulation resistance between the terminals of the load with the circuit breaker being turned OFF.	NV-C·S·H·U	_
PAL	Pre-alarm module	Indicates that the load current exceeds the pre-alarm setting current.	Electronic Types	_
OAL	Overcurrent trip alarm switch	Indicates that the breaker has been tripped by overcurrent or short-circuit current.	Electronic Types (SGW, HGW, RGW, UGW)	_

Note: (1) Models NV250-SEW/HEW are excluded.

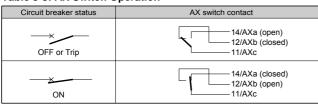
# 2. Switch Operation and Rating

Remark: (1) Accessory terminals are marked by both IEC-based terminal symbols and conventional symbols, like 98/ALa.



Circuit breaker status	AL switch contact
-× OFF or ON	98/ALa (open) 96/ALb (closed) 95/ALc
Trip	98/ALa (closed) 96/ALb (open) 95/ALc

#### Table 5-3: AX Switch Operation



#### Table 5-4: EAL Switch Operation

Circuit breaker status	EAL switch contact			
	250A frame or less	EALa (open)		
Over current, short circuit		EALC		
trip or on or off	400A frame or more	EALa (open) EALb (closed) EALc		
Ground-fault trip	250A frame or less	EALa (closed) EALc		
Ground-lault trip	400A frame or more	EALa (closed) EALb (open) EALc		

#### Table 5-5: MG Switch Operation

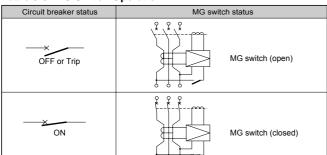


Table 5-6: AL-AX-EAL Switch Rating (In case of EAL, 400AF and more)

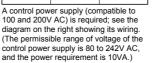
						/		
		AC			DC			
Switch type	Voltage	Current (A)		Voltage	Curre	nt (A)		
	(V)	Resistive load	Inductive load	(V)	Resistive load	Inductive load		
	460	-	-	250	0.2	0.2		
S	250	3	2	125	0.4	0.4		
	125	5	3	30	4	3		
	460	5	2	250	0.3	0.3		
v	250	10	10	125	0.6	0.6		
	125	10	10	30	10	6		
x*1	460	5	2.5	250	5	3		
	250	10	10	125	10	6		
	125	10	10	30	10	10		

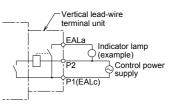
Note: \*1. When DC use polarity must be considered.

Please contact us for applications in the field of smaller current values.

# Table 5-7: EAL Switch Rating (250AF and less)

AC							
Voltage (V)	Current A						
	Resistive load	Inductive load					
200	3	2					
100	3	2					
A control now	or oupply (oor	nnatible to					





#### AL OAX SHT or UVT TI Cassette-type accessories - Handle Left-side mounting → \_\_\_\_\_ ← Right-side mounting MG ■EAL ■ TBM → Lead wire direction **Table 5-8: Combinations of Accessories** Series NF-C · S · H · U, MB $\mathsf{NV}\text{-}\mathsf{C}\cdot\mathsf{S}\cdot\mathsf{H}\cdot\mathsf{U}$ NF32-SW(3P) NF63-CW/SW/HW(3P) NF125-CW(3P), NF125-SW(3P, 4P) NV32-SW NV63-CW/SW/HW NF125-HW, NF125-SGW/HGW NF125-RGW/UGW NF32-SW NF63-CW/SW/HW NV125-CW/SW/HW NV250-CW/SW/HW NV100-SEP NF30-CS NF160-SW/SGW/HW/HGW NF250-CW/SW/HW NV30-CS Туре MB30-CS NV100-HEP NF125-CW/SW NV250-SEW/HEW NV125-RW, NV250-RW NF250-SGW/HGW NF250-RGW/UGW MB30-SW, MB50-CW/SW MB100-SW, MB225-SW 2, 3, 4 2.3 2 2.3.4 3.4 Poles 3 (Note 7) (Note 7) 0 0 AL 0 • (Note 7 (Note 7 1 2 AX 0 0 0 0 0 (Note 7 (Note 1 (Note 7 (Note 1) • 0 0 • • • AL + AXΟ Ο 1 2 Ο Ο Ο 3-pole product only (Note 2) (Note 2 (Note 2) (Note 4) (Note 3 SHT or UVT (Note 6) -8 ₿= (Note 2) AL + SHT or UVT • -8 (Note 2) AX + SHT or UVT Ο -(Note 1) (Note 2) • AL + AX + SHT or UVT Accessories Ο -8 MG (Note 7) ⊷●┃ AL + MG AX + MG (Note 5) (Note 8) ¢ ¢ FAI (Note 8) TBM ╞ ╞ (Note 8) PAL

# 3. Maximum Number of Internally Mounted Accessories

Notes: (1) Second AX can substitute the AL on the left-pole.

(1) Occord with UVT require a UVT voltage module to be installed on the lead-wire terminal unit. (No such voltage module is required for SHT.) Part of UVT accessories is not of cassette type. (Details will be available upon request.)
 (3) UVTs for left-pole installation can be produced, if specified, for frame current values of 125A (excluding SGW/HGW/RGW/UGW).

(4) SHT cannot be installed.
 (5) EALs are available only for models with the vertical lead-wire terminal unit (SLT). Specify a control power supply of either 100 or 200 V AC.
 (6) Models NV250-SEW/HEW are not allowed to install the UVT device.

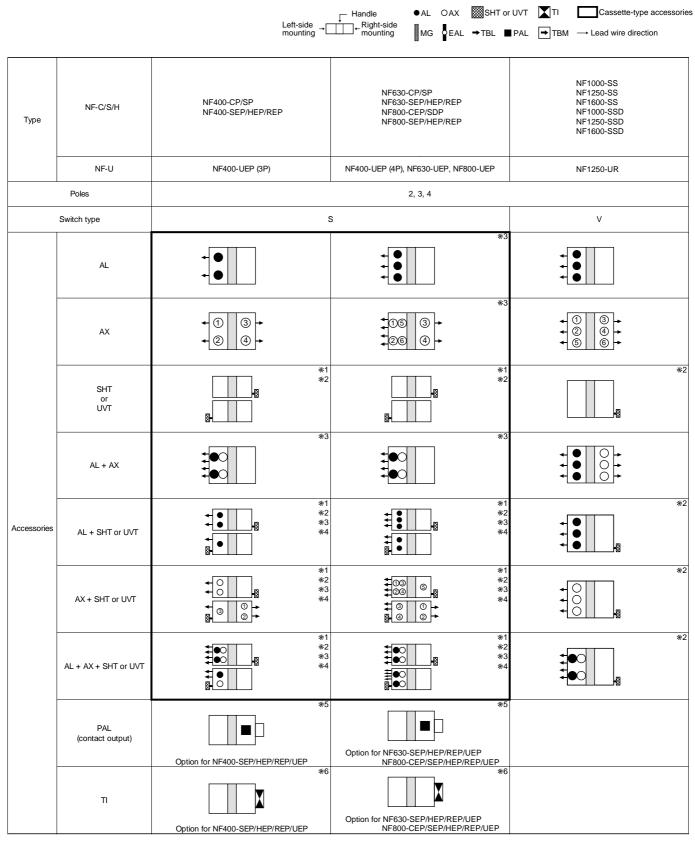
(7) The standard lead drawing is performed laterally.

Load drawing is also available.

(8) Only the models with an SLT are available. EAL and PAL require a control power supply (shared 100 - 200 VAC). For the 24 VDC TBM only, instruct us of a control voltage. (The standard shared voltage is 100 - 240 VAC/100 - 240 VDC.)

Remarks: (1) Circled numbers indicate the order of installation. (2) Accessories of EAL, and TBM can be installed independent of installations of AL, AX, and MG. (Two units among EAL, and TBM cannot be installed at the same time.)

Accessories Internal Accessories

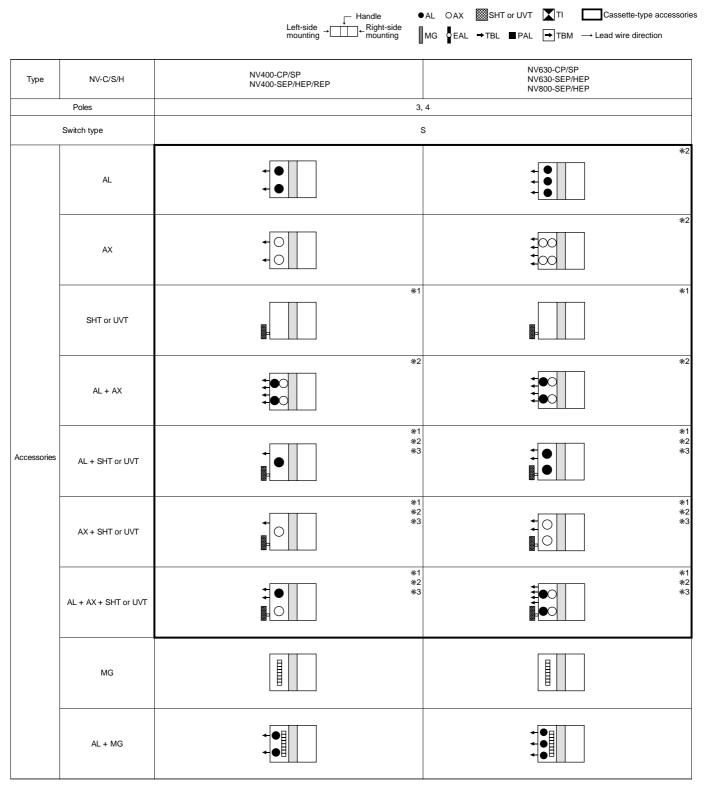


The number within the circle shows the order of mounting. \*1. SHT and UVT are right-pole mounting as standard. Please specify if left-pole mounting is required. \*2. UVT mounting requires a UVT voltage module (SHT requires no such voltage module).

When mounting a UVT to the same pole as the AL, AX, or AL + AX, the UVT voltage module is separate.

\*5. SLT-equipped is standard. Control voltage (AC100-200V) is necessary. (In this case, no other accessories can be mounted to the breaker's right pole.)
 \*6. SLT-equipped is standard. Control voltage (AC100-200V/DC100-200V) is necessary. (In this case, no other accessories can be mounted to the breaker's right pole.)

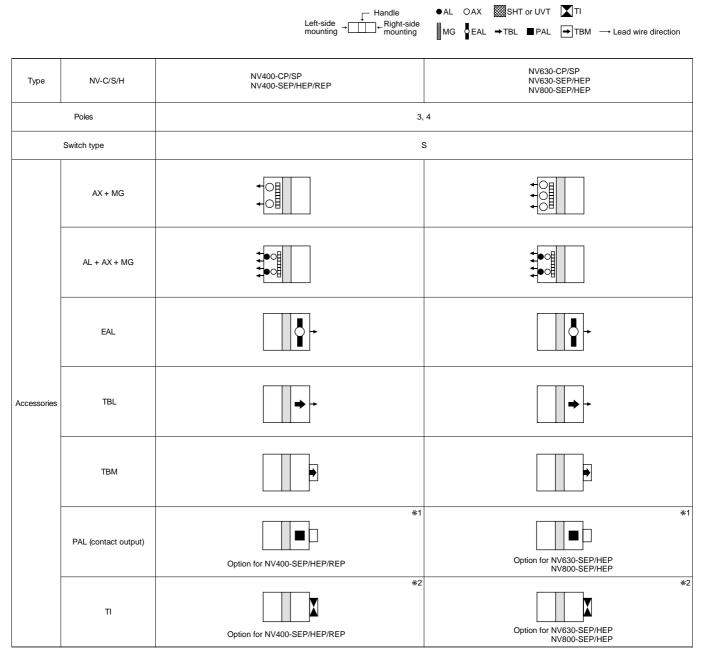
## Based on Mitsubishi MCCB Datasheet



The number within the circle shows the order of mounting.

\*1. UVT mounting requires a UVT voltage module (SHT requires no such voltage module).
\*2. When mounting mounting requires a UVT to the same pole as the AL, AX or AL + AX, a special-order SLT is necessary.
\*3. When mounting a UVT to the same pole as the AL, AX or AL + AX. The UVT voltage module is separate.

Accessories **Internal Accessories** 



The number within the circle shows the order of mounting.

In a number within the circle shows the order of mounting.
 EAL, TBL, and TBM can be mounted regardless of the number of AL, AX, SHT, UVT and MG accessories. (However, two EALs, TBLs or TBMs cannot be mounted simultaneously.)
 The PAL's dimensions and specifications change for the NF-C/S and NV-C/S series.
 \$1. SLT-equipped is standard. Control voltage (AC100-200V) is necessary. (In this case, no other accessories can be mounted to the breaker's right pole.)
 \$2. SLT-equipped is standard. Control voltage (AC100-200V/DC100-200V) is necessary. (In this case, no other accessories can be mounted to the breaker's right pole.)

#### - Handle Left-side mounting → \_\_\_\_\_ ← Right-side mounting

●AL OAX SHT or UVT

	1				1	1		1	
Туре	NF-C/S/H	NF50-SWU NF100-CWU NF100-SWU	NF50-SWU NF100-CWU NF100-SWU	NF-SFW NF-SJW NF-HJW	NF225-CWU	NF-SKW	NF-SLW	NV50-SWU NV100-SWU	NV225-CWU
	Poles	2		3		:	3	:	3
Sv	witch type			6		5	5	5	6
							(Note 7)		
	AL	•	<b>←0 0</b> →	← <b>0 0</b> →	<b>←0 0</b> →	<b>←</b> ● <b>←</b> ●		←●	←●
							(Note 7)		
	AX	→	<ul> <li>€</li> <li>(1)</li> <li>(2)</li> </ul>	<b>←</b> ① ② →	<ul> <li>€</li> <li>1</li> <li>2</li> <li>3</li> </ul>	← ① ③ → ← ② ④ →	+105 3 +206 4	-0	-0
		(Note 1)	(Note 1)	(Note 1)	(Note 2)	(Note 2)	(Note 2)	(Note 1) (Note 4)	(Note 1) (Note 4)
	SHT or UVT							8=	8=
			(Note 5)	(Note 5)	(Note 5)	(Note 7)	(Note 7)	(Note 5)	(Note 5)
Accessories	AL + AX		<ul> <li>● ● ●</li> <li>● ●<td>← <b>0 0</b> → ← 1 <b>2</b> →</td><td>• 0 0 • • 1 2 •</td><td></td><td></td><td><b>↓</b> ●                                    </td><td><b>←</b> ● ← ○</td></li></ul>	← <b>0 0</b> → ← 1 <b>2</b> →	• 0 0 • • 1 2 •			<b>↓</b> ●	<b>←</b> ● ← ○
			(Note 1)	(Note 1)	(Note 2)	(Note 1) (Note 6) (Note 7) (Note 8)	(Note 1) (Note 6) (Note 7) (Note 8)		
	AL + SHT or UVT		<b>←</b> ●	<b>←</b> ●	<b>←</b> ●				
			(Note 1)	(Note 1)	(Note 2)	(Note 1) (Note 6) (Note 7) (Note 8)	(Note 1) (Note 6) (Note 7) (Note 8)		
	AX + SHT or UVT		+ 0	<b>←</b> ○	+-O				
			(Note 1) (Note 5)	(Note 1) (Note 5)	(Note 2) (Note 5)	(Note 1) (Note 6) (Note 7) (Note 8)	(Note 1) (Note 6) (Note 7) (Note 8)		
	AL + AX + SHT or UVT		<b>+</b> ●	<b>↓</b> 0 <b>↓</b>	<b>+</b> ● ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓				

Notes: (1) If a UVT is used, a UVT voltage module is installed on the lead wire terminal block. (The SHT requires no voltage module.)

(1) If a UVT is used, a UVT voltage module is installed on the lead wire terminal block. (The SHT requires no voltage module.)
(2) If a UVT is used, a UVT voltage module is installed on the lead wire terminal block. (The SHT requires no voltage module.) No cassette is attached to the UVT.
(3) If a UVT is used, the UVT voltage module is externally installed. (The SHT requires no voltage module.) No cassette is attached to the UVT.
(4) No SHT can be installed.
(5) The 2nd AX can be installed instead of the AL on the left pole.
(6) The standard mounting of the SHT and the UVT is performed on the right pole. If mounting on the left pole is required, instruct us. (The UVTs for interlocks are mounted on the left pole.)
(7) We can manufacture the SLTs used when 3 or more accessories are installed on the left pole and the SLTs used when the AL and the AX are attached on the same pole that is attached with the UVT, the UVT voltage module is separately installed.
(8) If a UVT is used and an AL, an AX or an AL + an AX are attached to the same pole that is attached with the UVT, the UVT voltage module is separately installed.

Remarks: (1) Encircled numbers show the order of mounting.

Table 5-9: Standard Coil Rating

Series		Cut-off In		Input power require	ement (VA) (Note 1)	
			Voltage (V)	AC	DC	Operating time (ms) (Note 2)
	32(30) • 63A Frame 125A Frame (NF125-SGW/HGW/RGW/UGW are excluded)		AC100-240 380-550	120	50	15 or less
	160 • 250A Frame NF125-SGW/HGW/RGW/UGW		(Compatible to 50 and 60Hz.) DC100-125		60	
NF-C・S・H・U MB NV-C・S・H・U	400 • 630 • 800 Frame NF400-CP/SP/SEP/HEP/REP/UEP NF630-CP/SP/SEP/HEP/REP/UEP NF800-SDP/CEP/SEP/HEP/REP/UEP NV400-CP/SP/SEP/HEP/REP NV630-CP/SP/SEP/HEP, NV800-SEP/HEP	Equipped	AC100~450/DC100~200 (50 also 60Hz)	100V : 20 200V :50 330V : 120 450V : 170	100V : 10 200V :35	5~15
	1000 • 1250 • 1600 Frame NF1000-SS/SSD, NF1250-SS/SSD/UR NF1600-SS/SSD		AC100-120 200-240 380-450 (50 also 60Hz) DC100	200	70	7~15

Notes: (1) Secure a sufficient input power so that the voltage will not drop below the permissible lower working voltage (70% of the lowest rated voltage). (2) The operating time denotes the time from when the rated voltage is applied to SHT until when the main contact of the breaker starts to open

#### Table 5-10: Coil Ratings (List of manufacturable special voltages)

MCCB type		AC	AC (V) DC (V)				AC/DC (V)							
		24~48	48	380 ~550	12	24	24~36	36	36~48	48	110	125	220 ~250	24 ~48
NF-C • S • H • U MB 32(30) • 63A Frame 125A Frame 160 • 250A Frame	-	•	-	-	•	-	•	-	•	-	-	-	•	-
NF400-CP/SP/SEP/HEP/REP, NF630-CP/SP/SEP/HEP/REP, NF800-SDP/CEP/SEP/HEP/REP, NF400-UEP, NF630-UEP, NF800-UEP NV400-CP/SP/SEP/HEP/REP, NV630-CP/SP/SEP/HEP, NV800-SEP/HEP	-	-	-	•	•	-	-	-	-	-	-	-	-	•
NF1000-SS/SSD, NF1250-SS/SSD/UR NF1600-SS/SSD	•	-	•	-	•	•	-	٠	-	•	•	٠	-	-

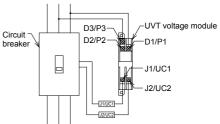
# 5. Undervoltage Trip (UVT)

#### Table 5-11: Coil Rating

Series	Voltage (Note 1 Standard voltage	· /	Input power (VA)	Operating time (ms) (Note 2) (Note 3)
250AF and less	AC100-110/120-130 selectable 200-220/230-250 selectable 380-415/440-480 selectable (Note4) DC100/110 selectable	AC24/48 selectable 500-550/600 selectable DC24/48 selectable 110/125 selectable	5	30 or less
NF400-CP/SP/SEP/HEP/REP/UEP, NF630-CP/SP/SEP/HEP/REP/UEP, NF600-CEP/SDP/SEP/HEP/REP/UEP, NF400-CP/SP/SEP/HEP/REP, NF630-CP/SP/SEP/HEP, NF800-SEP/HEP	AC100-110 200-220 400-440 (Note4) DC100	AC110-120 220-240 380-415 440-480 500-550 (Note4) DC24 48 110	5	5~30
NF1000-SS/SSD, NF1250-SS/SSD/UR, NF1600-SS/SSD	AC100-120 200-240 380-450 (Note4) DC100-110	AC24 DC24 48 48 440-480 120-125 500-550 (Note4)	5	5~35

UVT Voltage Module

The UVT voltage module is normally installed on the vertical lead-wire terminal unit (SLT). (A separatemount type can be produced upon request.)



Notes: (1) A desired voltage can be selected by changing the terminal wiring. (2) The operating time denotes the time from when no voltage is applied to UVT until when the main contact of the breaker

starts to open.

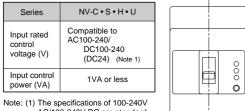
(3) Time-delayed types can be produced. Details will be available upon request.
(4) Compatible to 50 and 60Hz
(5) Rated voltage differs according to make and country of manufacture.Please consult your dealer.

UVT Voltage Module Wiring Diagram (Lead-Wire Connection)

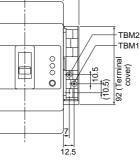
# 6. Test Button Module (TBM)

- The effect of pressing the test button on the breaker main body is produced while the input control voltage is applied. (Apply the voltage for more than two seconds for the breaker main body of time-delayed NV models.)
- The model with the vertical lead-wire terminal unit (SLT) is standard.

#### Table 5-12



AC/100-240V DC are standard unless otherwise specified. The specifications of 24 V DC are available if requested.



18

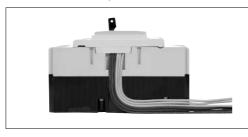
# 7. Lead-wire Specifications

#### Table 5-13

Туре	Size	Length	Marking	Ring-mark example
Heat- resistant wire	0.5mm <sup>2</sup>	(Note 1) 450mm	A ring-mark marked by the terminal symbol is attached to each lead-wire.	98/ALa, 96/ALb, 95/ALc C1/S1, C2/S2

Note: (1) The length is 400 mm for the model of four-pole, right-pole installation.

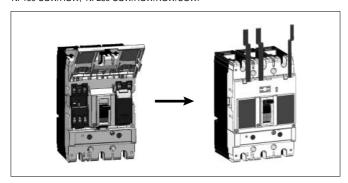
- Lead wires are normally extended laterally.
- Grooves are provided standardly on the side face of the breaker, allowing the extension of the lead wires along them. (Note 1)
- Note: (1) The models of NF125-SGW/HGW/RGW/UGW, NF160-SGW/HGW, NF250-SGW/HGW/RGW/UGW, 400Aframe and more are excluded.



# 8. Internal Terminal Type (INT)

• This unit is an internal accessory that is provided with terminal screws for lead-wire connection.

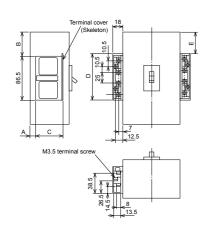
Remark: (1) Available for the models of NF125-SGW/HGW/RGW/UGW, NF160-SGW/HGW, NF250-SGW/HGW/RGW/UGW.



# 9. Vertical Lead-wire Terminal Block (SLT) The circuit beaker can be mounted, being closely fitted to the unit.

- Terminal screws are arranged in a zigzag pattern, and screws can be tightened further after wiring.
- A terminal cover is provided standardly.
- This unit supports the models of front connection, rear connection, and plug-in type (excluding PLT).



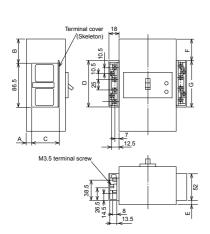


#### Table 5-14: Summary of Dimensions

Applicable models	A	B	С	D	E
NF30-CS, MB30-CS	4	4.5	44.5	86.5	4.5
NF32-SW, NF63-CW/SW/HW	7	17.5	54	00.5	17.5
MB30-SW, MB50-CW/SW		17.5	54	86.5	17.5
NF50-SWU	7	27.5	54	86.5	27.5
NF125-CW/SW/HW	7	19	54	86.5	19
NF100-CWU, NF100-SWU	7	29	54	86.5	29
NF125-HGW, NF225-HGW	25	25	54	86.5	25
NF-SFW,NF-SJW, NF-HJW	25	35	54	86.5	35
NF250-CW/SW/HW, NF225-CWU, NF160-SW/HW	7	37	54	86.5	37
NF400-CP/SP/SEP/HEP/REP, NF-SKW	41	79.5	54	86.5	79.5
NF630-CP/SP/SEP/HEP/REP, NF800-CEP/SDP/SEP/HEP/REP, NF-SLW	41	88.5	54	86.5	88.5
NF1000-SS/SSD, NF1250-SS/SSD, NF1600-SS/SS (Note1)	62.5	173	52	86.5	173
NF400-UEP(3P)	138	119.5	54	86.5	119.5
NF400-UEP(4P), NF630-UEP, NF800-UEP	130	135.5	54	86.5	135.5

Note: (1) SLT can not be mounted when more than 3 pieces of acc Remark: (1) Terminal screw tightening torque  $M3.5 \cdots 0.9 \sim 1.2N \cdot m$ cessories are mounted on one side in larger frame than 1000A frame.





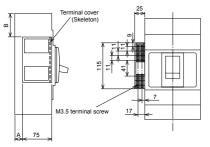
#### Table 5-15: Summary of Dimensions

Applicable models	A	В	С	D	E	F	G
NV30-CS	4	4.5	44.5	86.5	4	4.5	86.5
NV32-SW, NV63-CW/SW/HW	7	17.5	54	86.5	7	21.5	92
NV50-SWU	7	27.5	54	86.5	7	31.5	92
NV125-CW/SW/HW	7	19	54	86.5	7	19	86.5
NV100-SWU	7	29	54	86.5	7	29	86.5
NV100-SEP/HEP	7	30	54	86.5	2.5	30	92
NV250-CW/SW/HW, NV250-SEW/HEW, NV225-CWU	7	37	54	86.5	2.5	37	92
NV125-RW	7	80	54	86.5	7	80	86.5
NV250-RW	7	112	54	86.5	2.5	112	92
NV400-CP/SP/HP/HEP/REP	41	79.5	54	86.5	26.5	79.5	92
NV630-CP/SP/SEP/HEP, NV800-SEP/HEP	41	88.5	54	86.5	26.5	88.5	92

Remarks: (1) Terminal screw tightening torque M3.5 ··· 0.9~1.2N·m (2) Lead-wire terminal block for TBL is attached to right-side

# ■14 Terminals SLT

SLT when three and more than three pieces of internal accessories are mounted on left-side.



#### Table 5-16

Applicable models NEB NV				
NV	~	В		
NV400-CP/SP/SEP	00	<u> </u>		
NV400-HEP/REP	20	60		
-	117	100		
NV630-CP/SP/SEP/HEP	00	69		
NV800-SEP/HEP	20	69		
-	117	116		
	NV           NV400-CP/SP/SEP           NV400-HEP/REP           -           NV630-CP/SP/SEP/HEP	NV         A           NV400-CP/SP/SEP         20           -         117           NV630-CP/SP/SEP/HEP         20           V800-SEP/HEP         20		

Remark: (1) Terminal screw tightening torque

# 10. Pre-Alarm Module (PAL)

This module functions to give alarm output when load current exceeds a preset current level and serves for securing continuous power supply and also for preventive maintenance. The electronic breakers with mount digital ETR of 125 to 800AF are provided with this module as an option. (Some modules are with this module as standard equipment.) 1000 to 2000AF are prepared for exclusive use.

#### Table 5-17

Туре	Pre-alarm LED	Solid state relay (SSR) output-		Pre-alarm module-Contact output (1a)				
туре	(Auto reset)	Contacties output (Auto reset)	Switching capacity	Option 100VAC or Press the reset s 200VAC 2A turn off control p		Reset system		
NF125-SGW/HGW								
NF160-SGW/HGW		Option	24VDC 100-200VAC 20mA					
NF250-SGW/HGW								
NV100-SEP/HEP								
NV250-SEW/HEW		_			100\/AC at	Droop the react quitch (		
NF400-SEP NF400-HEP NF400-REP NF400-UEP NF630-SEP NF630-HEP NF630-REP NF630-UEP NF800-CEP NF800-SEP NF800-HEP NF800-REP NF800-SEP NV400-HEP NV400-REP NV630-SEP NV630-HEP NV800-SEP NV630-HEP	Standard equipment	Option	24VDC 100-200VAC 20mA			Press the reset switch or turn off control power.		

**OPre-alarm LED** 

3Pre-alarm module

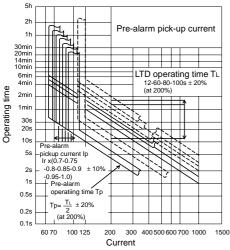
②Solid-state relay output

•Pre-alarm characteristics

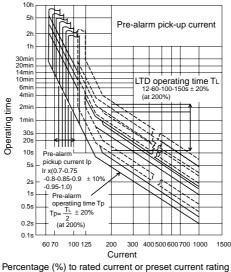
The LED starts blinking on the circuit breaker when load current exceeds the preset current, then changes to continuous glowing when pre-alarm output is given.

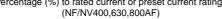
Open the upper cover of the circuit breaker, connect the connector of the lead wire packed together and use it as the lead wire outlet. In this case, only the lead wire outlet of the internal accessories can be attached to the right pole. (For flush plate type, the outlet is manufactured in advanced as a PAL mount.)

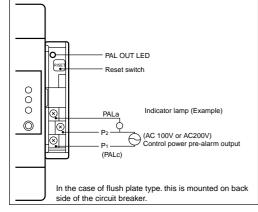
SLT is attached as standard and is used as the control power source of 100VAC or 200VAC. In this case, no other internal accessories can be attached to the right pole. (Auto resetting is also applicable.)



Percentage (%) to rated current or preset current rating (NF/NV125,250AF)







Based on Mitsubishi MCCB Datasheet

# **11. Trip Indicator (TI)**

When the breaker is tripped, this accessory installed on the right side will display the cause of the trip--either long delay (LTD), short or instantaneous (STD/INST), earth-leakage (EAL) (with earth-leakage breakers only)--on its LED and output an alarm signal. In this case, both LTD and STD/INST are treated as overcurrent trips (OAL) and output signals. Pre-alarm is also output. Again, with this module, it is impossible to connect other internal accessories to the breaker's right side.)

Туре	LED contents
NF400-SEP/HEP/REP/UEP NF630-SEP/HEP/REP/UEP NF800-CEP/SEP/HEP/REP/UEP	Long-time delay, Short-time delay, Instantaneous, Pre-alarm
NV400-SEP/HEP/REP, NV630-SEP/HEP, NV800-SEP/HEP	Long-time delay, Short-time delay, Instantaneous, Earth-leakage, Pre-alarm

*	Control power supply P1 P1 P2 Control voltage
88	

\* Requires 100-200VAC control voltage.

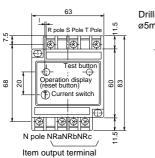
# 12. 3ø4W Neutral-pole protection Relay (NR)

• In a 3-phase 4-wire circuits, the voltage rise of the circuit by phase failure of a neutral line is detected, and a contact output is taken out.

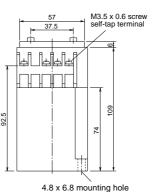
#### Table 5-19

Phase/wire type			3 ø 4W						
Rated voltage VAC			415						
Usable supply volt	tage	VAC			304	~484			
	Usable voltage (line voltage)	VAC	380	40	00	415	4	40	
<b>.</b>	Total operating overvoltage (phase voltage) (135% of total phase voltage)	VAC	296	3	12	323	3	43	
Tripping	Total non-operating overvoltage (phase voltage) (120% of total phase voltage)	VAC	263	2	77	288	3	)5	
characteristics	Total overvoltage operating time			1					
	Overvoltage non-operating time	(S)	More than 0.1						
Trip indication met	thod	Button							
Reset method			Reset button (open-phase display use)						
			1c						
			AC						
			Valtaria	COS Ø		Valtage	L/R		
External output co	ontacts		Voltage	1.0	0.4	Voltage	343           305           lisplay use)           DC           Je           7A           /	0.007	
			100, 120V	7A	7A	30V		6A	
			200, 240V	7A	7A	125V	0.6A	0.6A	
			415V	5A	2A	250V	0.3A	0.3A	

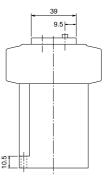
Remark: Using with a shunt-trip device (SHT) equipped breaker will improve tripping and phase protection.







mounting screw M4 x 0.7 mm



12485

# 1. V-type Operating Handle

• Appearance (Color N1.5)



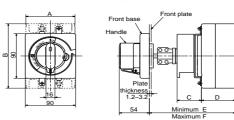
• This handle in conjunction with the breaker main enables the isolation function effective.

The safety standards of EN Standards

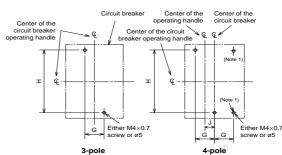
Table 5-20: Summary of Dimensions

- (EN60204-1) are satisfied. Degrees of protection (IEC60529) IP65 is satisfied standardly.
- OFF-position lock only is available for up to three commercial padlocks (ø8)
- A door-lock mechanism allows the door to be opened at OFF-position only.

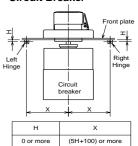
#### Outside Dimension Diagram



#### Mounting-hole Drilling Dimension Diagram

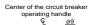


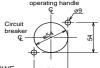
#### Center of Hinge and **Circuit Breaker**



The above illustration shows a view of the hinges and the circuit breaker when viewed from the direction of the load.

#### • Front Plate Drilling **Dimension Diagram**





Note 1: The drilling at this position is not required for the models of both V2GSW and V2GSWF.

Type name	Applicable models	Applicable models					Dimensions (mm)					
rypename	Applicable models	of poles	A	В	С	D	Е	F	G	Н	J	
105014	3P 75			154	300			-				
V05SW	NF32-SW, NF63-CW/SW/HW, NV32-SW NV63-CW/SW/HW, MB30-SW	4P	100	130	44	61	154	300	25	111	12.5	
V05SWF (Note 2)		3P	75	130	44	61	125	_	25		-	
VUSSVF (NOLE 2)		4P	100				125				12.5	
V1SW		<u>3P 90</u>		154	518			-				
V13W	NF125-CW/SW/HW, NV125-CW/SW/HW	4P	120	130	44	61	104	516	30	111	15	
V1SWF (Note 2)	MB100-SW	3P	90	100		01	125	_	00		-	
VISVIE (Note 2)		4P	120				125	_			15	
V2SW		2P, 3P	105				154	518			-	
V23VV	NF160-SW/HW, NF250-CW/SW/HW, NV250-CW/SW/HW	4P	140	165	46	61	154	510	35	126	17.5	
V2SWF (Note 2)	NV250-SEW/HEW, MB225-SW	2P, 3P	105	105	40	01	125	_	- 55	120	-	
V23VVI ((1002)		4P	140				120				17.5	
V2GSW		2P, 3P	105				172	536			-	
V203W	NF125-SGW/HGW, NF160-SGW/HGW, NF250-SGW/HGW	4P	140	165	46	79	172	550	35	126	17.5	
V2GSWF (Note 2)		2P, 3P	105		40	79	143	_	- 35	120	-	
VZGSVVF (NOLE 2)		4P	140				143	-			17.5	

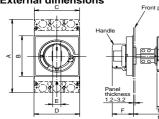
Notes: (1) This hole is not required for two and three poles. (2) The last letter of "F" of the type designations of V-type operating handles denotes a fixed type.

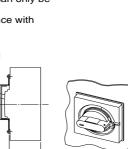
Remark: (1) You may contact us for details of the V-type operating handle for the U series.

\*Equipped with cylinder key (option) to prevent deliberate operation.

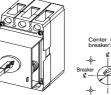
- Can be locked in OFF position only.
- The door is locked when ON and can only be opened in OFF position.
- Degrees of protection (in accordance with IEC60529): IP65.

#### External dimensions





Outview



#### Drilling plan

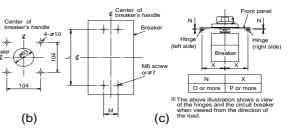


Table 5-21

_	Breakers type		Fi	ig.					Dimensions (mm)								
Туре	MCCB	ELCB	Outview	Outview Drilling plan			С	D	ш	н	G	н	J	к	L	м	Р
V4SPW	NF400-CP, NF400-SP, NF400-SEP, NF400-HEP	_			257	140	140	140	25	62	76	97	217	539	194	44	8N+150
V4SPWNV	—	NV400-CP, NV400-SP NV400-SEP, NV400-HEP			2.57	140	140	140	25	02	10	37	217	555	134		011-130
V6SPW	NF630-CP, NF630-SP, NF630-SEP NF630-HEP NF800-CEP, NF800-SDP, NF800-SEP NF800-HEP	NV630-CP, NV630-SP NV630-SEP, NV630-HEP NV800-SEP, NV800-HEP	a	b, c	275	140	210	140	25	62	76	97	217	539	243	70	8N+150
	NF400-CP, NF400-SP, NF400-SEP, NF400-HEP	_	a	D, C	257	140	140	140	25	62	76	97	191	_	194	44	8N+150
V4SPWFNV	—	NV400-CP, NV400-SP NV400-SEP, NV400-HEP			201	140	140	140	20	02	10	0,	101		104		011100
V6SPWF	NF630-CP, NF630-SP, NF630-SEP NF630-HEP NF800-CEP, NF800-SDP, NF800-SEP NF800-HEP	NV630-CP, NV630-SP NV630-SEP, NV630-HEP NV800-SEP, NV800-HEP			275	140	210	140	25	62	76	97	191	-	243	70	8N+150

(a)

# Based on Mitsubishi MCCB Datasheet

# 2. F-type Operating Handle

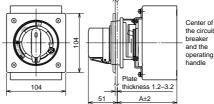
• Appearance (Color N1.5)



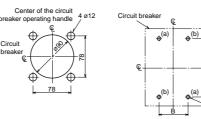
- This handle in conjunction with the breaker enables the isolation function effective.
- The standard model is equipped with a safety device that prevents the circuit breaker from being turned on if the door is open. (If not desired, please specify so.)
- The handle can be locked at either ON or OFF position. (Three padlocks (40mm) can be installed. OFF-position lock only specifications are also acceptable.)
- Degrees of protection (IEC60529) IP3X (IP5X with dustproof packing)
- Remark: (1) Trip action can be displayed when the circuit breaker trips even if ON-position lock is selected (only in the case of a single padlock (35 mm)).

#### Table 5-22: Summary of Dimensions



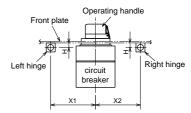


#### Drilling Dimension Diagram



#### Center of Hinge and Circuit Breaker

Le	eft hinge	Riç	ght hinge
н	X1	Н	X 2
0	(5H+100)	Less than 10	170 or more
or more	or more	10 or more	(5H+120) or more



The above illustration shows a view of the hinges and the circuit breaker when viewed from the direction of the load.

Turne	name	Applicable models	Number		Dimens		Mounting	
Type	name	Applicable models	of poles	A *1	В	С	D	screws
*2 F05SW2P *3 F05SWR2P NF32-SW, NF63-CW/SW/HW		2P		-			(a) Circuit	
*2 FOF CIM *2 FOF CIMP NF32-SW, NF63-CW/SW/HW, NV32-SW, NV63-SW/HW, MB30-SW, MB50-CW/SW		3P, 4P		25	111		breaker	
*2 F05SW *3 F05SWR		NV63-CW/SW		105	25		Either	mounting screws
*2 F1SW2P	*3 F1SWR2P	NF125-CW/SW/HW	2P		-	111	M4×0.7	(2pcs)
*2 F1SW	*2 F1SW *3 F1SWR NF125-CW/SW/HW, NV125-CW/SW/HW, MB100-SW		3P, 4P		30		screw or ø5	(b) Handle
*2 F2SW *3 F2SWR NF160-SW/HW, NF250-CW/SW/HW, NV250-CW/SW/HW, NV250-SEW/HEW, MB225-SW		2P, 3P, 4P	107	35 126			mounting screws (2pcs)	
*2 F2GSW *3 F2GSWR NF125-SGW/HGW, NF160-SGW/HGW, NF250-SGW/HGW		3P, 4P	125	35	126	]	(2003)	

\*1. Dimensions of both front connection and rear connection are shown. The plug-in type has a different reference plane for mounting the circuit breaker

\*2. The standard type is epuipped with a door-lock mechanism that allows door to be opened only when OFF operation is carried out \*3. In case of reset opened type use.

Remarks: (1) The test button becomes difficult to press when an operating handle is installed on an NV model. Then, use models with either TBM instead.

(2) Dustproof packings are separately available.(3) You may consult us for details of the F-type operating handle for the U series.

#### Appearance (Color N1.5)

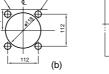


- Includes as standard a safety device which prevents breaker closing as long as the cover is open. (Specify if this safety feature is not required.)
- Indicates the tripping of the breaker even in ON-lock position--but only in cases when a single padlock (35mm) is used.
- Degrees of protection (in accordance with IEC60529): IP3X (IP5X with provision of dustproof packing).

#### Table 5-23

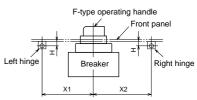
	External dimensions
	Pille Bidness 12





#### Center of Hinge and Circuit Breaker

	-									
L	eft hinge	Right hinge								
н	X1	н	X2							
0 or more	(8H +150) or more	0 or more	(4H + 120) or more							



The figure above shows the relationship between the hinge and breaker viewed from the load side of the breaker.

				Fi	g				Dime	nsions	(mm)	Manuality	
Ту	rpe	Breaker type	Number of poles	External dimensions	Dri pl	lling an	Å <sup>*5</sup>	в	с	D	E	F	Mounting crews
*6 F4SPW	*7 F4SPWR	NF400-CP/SP/SEP/HEP/REP	2P, 3P, 4P				183		44	194		_	
*6 F4SPWNV	*7 F4SPWRNV	NV400-CP/SP/SEP/HEP/REP	3P, 4P				105		44	194			
*6 F4UPW	*7 F4UPWR	NF400-UEP	3P				280		44	234		20	]
*6 F6SPW		NF630-CP/SP/SEP/HEP/REP NF800-CEP/SDP/SEP/HEP/REP	2P, 3P, 4P				183	53	70	243	M6 screw or ø7		(X) Breaker
*6 F6SPWNV	*7 F6SPWRNV	NV630-CP/SP/SEP/HEP, NV800-SEP/HEP	3P, 4P	а	b	с	103		/0	243			mounting
*6 F6UPW	*7 F6UPWR	NF400-UEP (4P), NF630-UEP, NF800-UEP	3P, 4P	]			280		70	290	]	23.5	(4 pcs)
*7 F10	0	NF1000-SS/SSD, NF1250-SS/SSD	2P, 3P				221		70	375		_	]
*7 F10	04P	NF1600-SS/SSD	4P				221	50	10	010	M8 screw		
*7 F120UR NE1250-UR		NF1250-UR	3P				225	50	70	375	or ø10	_	
*7 F12	0UR4P		4P				225		10	5/5			

\*1. Handles with NV in the product name include a test button

\*2. Dustproof packing is also available as an option.

\*3. Other optional handles can also be mounted.

\*4. F4SPW~F6UPW are for isolation purposes.

(Speify OFF lock only.)

\*5. The figures show the dimensions of the front connection. Some connection and plug-in breakers have a different reference surface for mounting purposes.
\*6. The standard type is equipped with a door-lock mechanism that allows the door to be opened only when OFF operation is

ф<sup>(Y)</sup>

(c)

ф<sup>(X</sup>

<del>д</del>(Y)

carried out. \*7. In case of reset opened type use

Based on Mitsubishi MCCB Datasheet

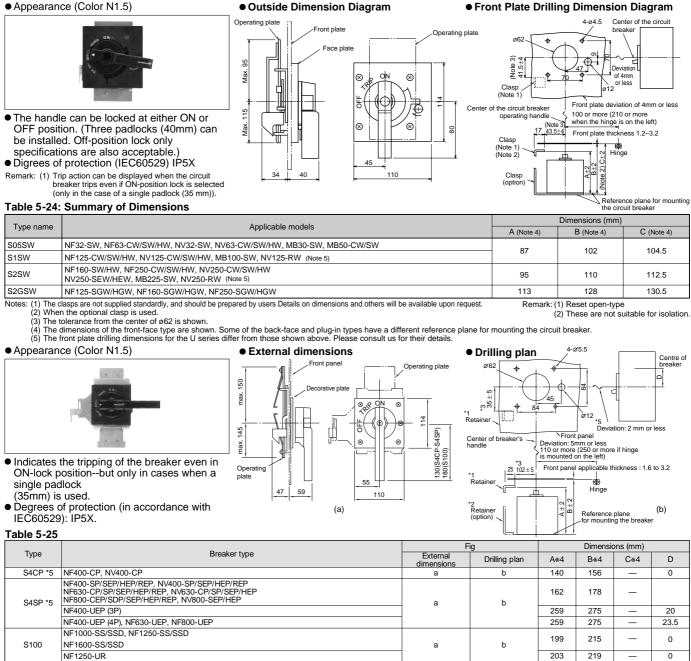
#### Specification explanation for F-type operating handles

Specification	or F-type operating handles Detailed explanation	Kind											
	The position where it can lock	ON and OFF-position	lock	0	FF-position lock only								
Handle lock position	with the padlock. Can not open, when it use padlock.			$\odot$									
	When OFF-lock, please turn handle in RESET direction.			œ ⊗									
	The door can be opened with the	RESET-po	osition open		OFF-position open								
Door opening system	operating handle RESET-position or OFF-position. When the operating handle was locked, the panel (door) can not be opened.	OFF-position	RESET-positi	Lock lever	OFF-position								
Mounting direction	Reconstruction to vertically from horizontally can not be	Vertically type (ON side of breaker is upper)	Horizonta (ON side of b		Horizontally type (ON side of breaker is right)								
The top of label is ON side of breaker ON side	performed.												
For emergency *You may consult us for details of emergency	For emergency stop use. (In accordance with EN60204-1)				l color ellow color								

Remark: (1) Reset open-type

# 3. S-type Operating Handle

• Appearance (Color N1.5) Outside Dimension Diagram



Notes: \*1. Retainers are not included. They must be provided by the customer.

\*1. Retainers are not included. They must be provided by the customer.
\*2. When using optional retainer.
\*3. Shows the tolerance for the distance from the center of a 62mm dia. hole.
\*4. The figures show the front-connection dimensions. Some rear-connection and plug-in breakers have a different reference surface for mounting purposes.
\*5. S4CP and S4SP are for isolation purposes. (Specify OFF lock only.) The tolerance is less than 5mm. It does not conform to isolation purposes, however, if the deviation is more than 2mm.

## •Surface plate interlocking fastening (separately available)

Operation	Turpa	Break	er type	Dimensi	ons (mm)	Drilling diagram and referential diagram
Operation handle series	Туре	MCCB	ELCB	A	В	Drilling diagram and referential diagram
	TG-S05SW	NF32-SW NF63-CW/SW/HW MB30-SW, MB50-CW/SW NF125-CW/SW/HW MB100-SW	NV32-SW NV63-CW/SW/HW NV125-CW/SW/HW			Fastening
	TG-S1UW	NF125-RGW/UGW	NV125-RW			
	TG-S05SP	-	NV100-SEP, HEP			
	TG-S2SW	NF160-SW/HW NF250-CW/SW/HW NF250-SEW/HEW,MB225-SW	NV250-CW/SW/HW NV250-SEW/HEW	-	-	Fastening
	TG-S2UW	NF250-RGW/UGW	NV250-RW			
S-type	TG-S2GSW	NF125-SGW/HGW NF160-SGW/HGW NF250-SGW/HGW NF-SFW, NF-SJW, NF-HJW	-			Center of the handle of breaker Breaker
	TG-S4CP	NF400-CP	NV400-CP			
	TG-S4SP	NF400-SP/SEP/HEP/REP NF630-CP/SP/SEP/HEP/REP NF800-CEP/SDP/SEP/HEP/REP NF-SKW, NF-SLW	NV400-SP/SEP/HEP/REP NV630-CP/SP/SEP/HEP NV800-SEP/HEP	67	119	Center of the breaker
	TO SAUD	NF400-UEP (3P)	-	67	119	
	TG-S4UP	NF400-UEP (4P), NF600-UEP, NF800-UEP	-	87	119	
	TG-S100	NF1000-SS/SSD, NF1250-SS/SSD NF1600-SS/SSD	-	67	119	M5 screw B (for attaching)
	TG-S120UR	NF1250-UR	-	67	119	the fastening Drilling diagram

Remark: The clamp for surface plate interlock fastener is common to 2P, 3P and 4P.

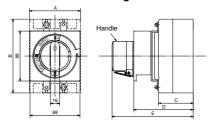
# 4. R-type Operating Handle

Appearance (Color N1.5)

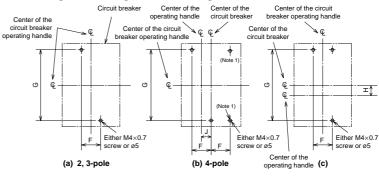


- This handle in conjunction with the breaker main enables the isolation function effective.
- OFF-position lock only is available for up to three commercial padlocks (ø8).
- Equipped with cylinder key (option) prevent deliberate operation.

#### Outside Dimension Diagram



#### Mounting-hole Drilling Dimension Diagram



Note 1: The drilling at this position is not required for the models of R2GSW.

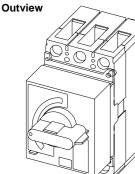
#### Table 5-26: Summary of Dimensions

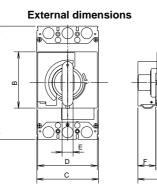
<b>T</b>	A so lise bla so state	Number	Fig	Dimensions (mm)								
Type name	Applicable models	of poles	Drilling plan	А	В	С	D	E	F	G	н	J
DACW	NF125-CW, NF125-SW, NF125-HW	3P	а	90	130	61	105	142	30	111		—
R1SW	NV125-CW, NV125-SW, NF125-HW	4P	b	120	130	01	105	142	30	111	_	15
R1UW	NV125-RW	3P	с	90	191	61	105	142	30	172	30.5	—
R2SW	NF160-SW, NF160-HW, NF250-CW, NF250-SW, NF250-HW	2P, 3P	а	105	165	61	107	144	35	126		_
R25W	NV250-CW, NV250-SW, NF250-HW, NV250-SEW NV250-HEW	4P	b	140	1 165	61	107	144	35	126	_	17.5
R2UW	NV250-RW	3P	с	105	240	61	107	144	35	201	37.5	_
D00014	NF125-SGW, NF125-HGW, NF160-SGW, NF160-HGW,	2P, 3P	а	105	165	79	125	162	35	126		_
R2GSW	NF250-SGW, NF250-HGW	4P			19	125	102	35	120	_	17.5	
R2GUW	NF125-RGW, NF125-UGW, NF250-RGW, NF250-UGW	3P	с	105	240	79	125	162	35	201	37.5	_

 $\ast$  Equipped with cylinder key (option) to prevent deliberate operation.

(a)

#### $\bullet$ Can be locked in OFF position only.







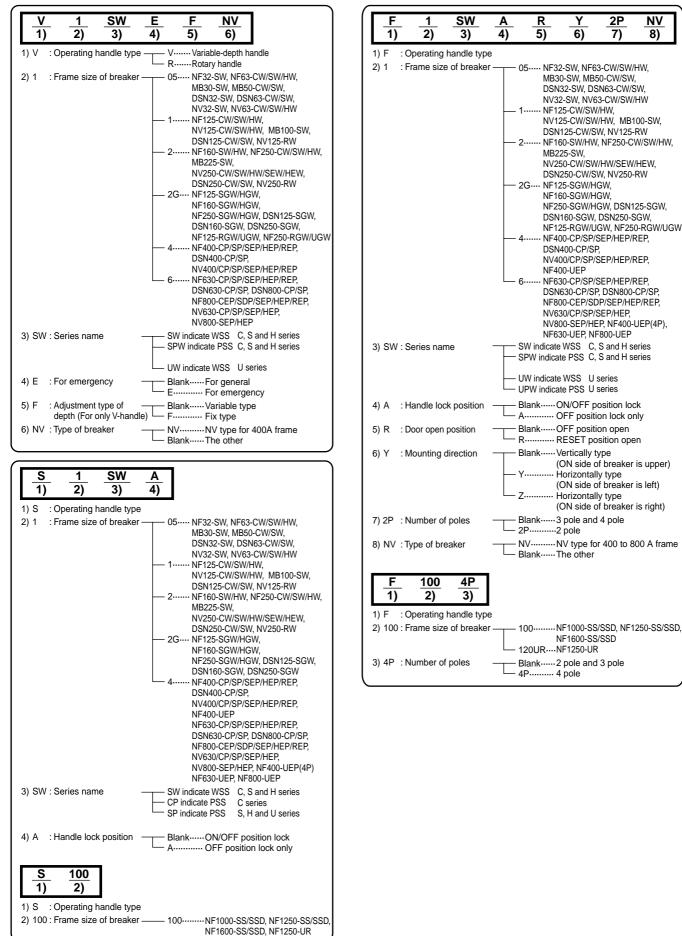
Drilling plan

#### Table 5-27

	Breaker type		Fi	g					Dime	ensions	(mm)					
Туре	MCCB ELCB		Outview	Drilling plan	А	В	С	D	Е	F	G	н	J	К	L	М
R4SPW	NF400-CP, NF400-SP, NF400-SEP, NF400-HEP	-														
R4SPWNV	_	NV400-CP, NV400-SP, NV400-SEP, NV400-HEP	а	b	257	128	140	140	25	43	97	174	218	194	44	_
R6SPW		NV630-CP, NV630-SP, NV630-SEP, NV630-HEP, NV800-SEP, NV800-HEP			275	128	210	140	25	43	97	174	218	243	70	_

G

Ordering information



# 5. Terminal Cover

Table 5-28

			Large terminal cover (TC-L)	Small terminal cover (TC-S)	Transparent terminal cover (TTC)	Rear terminal cover (BTC)	Plug-in terminal cover (PTC)
Breaker type			B A	B		B	a de la constante de la consta
NF30-CS, MB30-CS	2P		TCL-03CS2W (43.5×30.5×25)	TCS-03CS2W (43.5×30.5×5)	TTC-03CS2 (43.5×30.5×25)	BTC-03CS2W (43.5×30.5×6.5)	_
NF30-CS, NV30-CS, MB30-CS	ЗP		TCL-03CS3W (67×30.5×25)	TCS-03CS3W (67×30.5×5)	TTC-03CS3 (67×30.5×25)	BTC-03CS3W (67×30.5×6.5)	_
NF32-SW, NF63-CW/SW/HW	2P		(Note 1) TCL-05SW2W (50×65.5×25)	(Note 1) TCS-05SW2W (50×65.5×5)	(Note 1) TTC-05SW2 (50×65.5×25)	BTC-05SW2W (50×65.5×5)	PTC-05SW2W (50×65.5×6.5)
NF32-SW, NF63-CW/SW/HW NV32-SW, NV63-CW/SW/HW, MB30-SW MB50-CW/SW	3P	IP20	(Note 2) TCL-05SW3W (75×65.5×25)	(Note 2) TCS-05SW3W (75×65.5×5)	(Note 2) TTC-05SW3 (75×65.5×25)	BTC-05SW3W (75×65.5×5)	PTC-05SW3W (75×65.5×6.5)
NF125-CW/SW/HW	2P		(Note 1) TCL-1SW2W (60×65.5×40)	(Note 1) TCS-1SW2W (60×65.5×6.5)	(Note 1) (60×65.5×40)	BTC-1SW2W (60×65.5×6.5)	PTC-1SW2W (60×65.5×6.5)
NF125-CW/SW/HW, NV125-CW/SW/HW, NV125-RW, MB100-SW	ЗP		(Note 2) TCL-1SW3W (90×65.5×40)	(Note 2) TCS-1SW3W (90×65.5×6.5)	(Note 2) TTC-1SW3 (90×65.5×40)	BTC-1SW3W (90×65.5×6.5)	PTC-1SW3W (90×65.5×6.5)
NF160-SW/HW, NF250-CW/SW/HW, NV250-CW/SW/HW, NV250-SEW/HEW, NV250-RW MB225-SW	2P 3P		(Note 2) TCL-2SW3W (105×65.5×40)	(Note 2) TCS-2SW3W (105×65.5×6.5)	(Note 2) TTC-2SW3 (105×65.5×40)	BTC-2SW3W (105×65.5×6.5)	PTC-2SW3W (105×65.5×6.5)
NF125-SGW/HGW/RGW/UGW, NF160-SGW/HGW NF250-SGW/HGW/RGW/UGW	2P 3P	IP40	TCL-2GSW3W (105×84×40)	TCS-2GSW3W (105×84×6.5)	TTC-2GSW3 (105×84×40)	BTC-2GSW3W (105×84×6.5)	PTC-2GSW3W (105×84×6.5)

 Notes: (1) Attach the letter "F" to the end of model designation for models with F-type operating handle. (Those are F-type operating-handle dedicated models, and screws are used for fixing.)

 (2) An F-type operating handle can be installed standardly.

 Remarks: (1) Parenthesized numbers denote the outside dimensions (A×B×C in mm).

 (2) The terminal cover for a four-pole model can be produced upon request.

#### Table 5-29

	Large terminal cove (TC-L)	er	Transparent terminal cover (TTC)	Rear terminal cover (BTC)	Plug-in terminal cover (PTC)	
Breaker type	A B C Fig.			A B C		
NF400-CP/SP/SEP/HEP/REP NV400-CP/SP/SEP/HEP/REP	2P, 3P	TCL-4SP3 *3 TCL-4SP3W *4 (171X99.5X110)	<b>E 1</b>	TTC-4SP3 (171X104.5X110)	BTC-4SP3 BTC-4SP3W *4 (140X99.5X42)	PTC-4SP3 (140X99.5X42)
NF400-UEP	ЗP	TCL-4SP3 *1 TCL-4SP3W *4 (171X132.5/196.5X110)	Fig. 1	_	BTC-4SP3 *1 BTC-4SP3W *4 (140X132.5/196.5X42)	_
NF400-SP/SEP/HEP, NV400-SEP/HEP	4P	TCL-4SP4 *4 (240×104.5×110)		TTC-4SP4 (240×104.5×110)	BTC-4SP4 *2 (185X97.5X39)	_
NF630-CP/SP/SEP/HEP/REP, NV630-CP/SP/SEP/HEP NF800-CEP/SDP/SEP/HEP/REP, NV800-SEP/HEP	2P, 3P	TCL-6SP3 *5 (224×103.5×155)		TTC-6SP3 (224X103.5X155)	BTC-6SP3 *2 (210X97.5X32)	_
NF630-UEP, NF800-UEP	3P	TCL-6UP3 *1 (220X146/194.5X155)		-	BTC-6SP3 *1,*2 (210X146/194.5X32)	_
NF630-SP/SEP/HEP, NV630-SEP NF800-SEP/HEP	4P	TCL-6SP4 *6 (294×103.5×155)		TTC-6SP4 (294X103.5X155)	BTC-6SP4 *2 (280X97.5X32)	_
NF400-UEP, NF630-UEP, NF800-UEP	4P	TCL-6UP4 *1 (290X146/194.5X155)	Fig. 2	_	BTC-6SP4 *1,*2 (280X146/194.5X32)	_
NF1000-SS/SSD NF1250-SS/SSD	2P, 3P	TCL-10SS3 (220×139×150)		_	_	_
NF1000-SS/SSD NF1250-SS/SSD	4P	TCL-10SS4 (290×139×150)		_	_	_
NF1250-UR	ЗP	TCL-12UR3 (250X143X230)		_	_	_
NF1250-UR	4P	TCL-12UR4 (320X143X230)		_	—	_

Remarks: 1. ( ) Shows external dimensions in mm. (AXBXC) \* 1. Line side/Load side \* 2. These covers can be mounted on plug-in type. \* 3. Except for NF400-HEP/REP and NV400-HEP/REP. \* 4. Color is white.

# 6. Electrical Operation Device

# • 250A Frame and less

## Table 5-30: Summary of Model Designations

Applic	(Note 1) able models	NF125-CW(3P) NF125-SW(3P, 4P) NF125-HW	NF160-SW/HW NF250-CW/SW/HW MB225-SW	NF125-SGW/HGW NF160-SGW/HGW NF250-SGW/HGW	NV125-CW/SW/HW	NV250-CW/SW/HW	NV250-SEW/HEW
	24V DC	MDSD024-NF1SWE	MDSD024-NF2SWE	MDSD024-NF2GSWE	MDSD024-NV1SWE	MDSD024-NV2SWE	MDSD024-NVE2SWE
Rated operating	48-60V DC	MDSD060-NF1SWE	MDSD060-NF2SWE	MDSD060-NF2GSWE	MDSD060-NV1SWE	MDSD060-NV2SWE	MDSD060-NVE2SWE
voltage	Compatible to 100-240V AC/100-250V DC	MDSAD240-NF1SWE	MDSAD240-NF2SWE	MDSAD240-NF2GSWE	MDSAD240-NV1SWE	MDSAD240-NV2SWE	MDSAD240-NVE2SWE

#### Table 5-31: Specifications

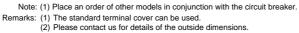
		ating voltage je range 85~110%)	24V DC	Compatible to 100-240V AC/100-250V DC				
		ON action	0.05–0.1					
	Operating time (s)	OFF action	0.6 or less					
		Charging action	1.2 or less					
	Power requ	irement (VA)	150					
[	Power requ	uirement (VA)	150					

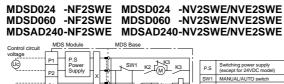
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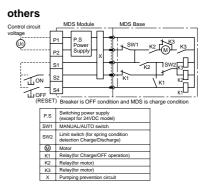
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• 400A Frame and more





Table 5-32

JZ										
N	F-C series	NF400-CP NF630-CP NF800-CEP	—	NF400-CP NF630	-CP NF800-CEP	—				
MCCB NF-S-H series		NF400-SP NF400-SEP/HEP/REP NF630-SP NF630-SEP/HEP/REP NF800-SEP/HEP/REP	NF1000-SS NF1000-SSD NF1250-SS NF1250-SSD NF1600-SSD NF1600-SSD	NF400-SEP NF630 NF630-SEP	/HEP/REP )-SP /HEP/REP	NF1000-SS NF1000-SSD NF1250-SS NF1250-SSD NF1600-SS NF1600-SSD				
NF-U	U, MB series	NF400-UEP NF630-UEP NF800-UEP	NF1250-UR	NF400-UEP NF630	-UEP NF800-UEP	NF1250	D-UR			
N	V-C series	NV400-CP NV630-CP	_	NV400-CP I	NV630-CP	_				
ELCB type NV-S-H series		NV400-SP           NV400-SEP/HEP/REP           NV630-SEP/HEP           NV630-SEP/HEP			_	NV400-SEP NV630-SI	/HEP/REP EP/HEP	_		
N	/N series	_								
al opera	ation system	Motor-drive type (2)	rged type	vpe Spring-charged type						
			100/110VDC, 100/110VAC, 200/220VAC (125VDC, 240VAC)							
35~110	%)*1			OFF	ON	OFF	ON			
DC	100/110V	3.0 (8.0)	4.0 (8.0)	1.0 (3.0)	8	1.0 (3.0)	9			
	100/110V	4.0 (8.0) 5.0 (10.0)		1.0 (3.0)	10	1.0 (3.0)	10			
AC	200/220V	2.0 (4.5)	3.5 (7.0)	0.5 (1.5)	8	0.5 (1.5)	8			
······	On	Less then 0.2 (self helding)	Less then 0.2 (self holding)	0.0	)5	0.0	7			
time (S)	Off	Less man 0.3 (self-holding)	Less man 0.3 (self-holding)	Less than 3	self-holding)	Less than 3 (self-holding)				
ansform	er capacity (VA)	400	700	70	10	700				
rance vo	oltage (V)	·	15	500						
	NF-I NF-I N NV NV NV NV NV NV NV NV NV NV NV NV N	NF-C series       NF-S-H series       NF-U, MB series       NV-C series       NV-S-H series       MN series       al operation system       opperating voltage (N) able voltage range 35-110%) *1       DC     100/110V       AC     100/110V       200/220V     On	NF-C series         NF400-CP NF630-CP NF800-CEP           NF-S-H series         NF400-SP NF630-SP NF630-SEP/HEP/REP NF630-SEP/HEP/REP           NF-U, MB series         NF400-UEP NF630-UEP NF800-UEP           NV-C series         NV400-CP NV630-CP           NV-C series         NV400-SEP/HEP/REP NV400-SEP/HEP/REP           NV-S-H series         NV400-SEP/HEP/REP NV630-SEP/HEP           MN series         —           al operation system         Motor-drive type (2)           poperating voltage (v) able voltage range 55-110%) *1         3.0 (8.0)           AC         100/110V         4.0 (8.0)           AC         On Off         Less than 0.3 (self-holding)           ansformer capacity (VA)         400	NF-C series         NF400-CP NF630-CP NF800-CEP            NF-C series         NF400-SP NF400-SEP/HEP/REP NF630-SP/HEP/REP NF630-SEP/HEP/REP NF800-SEP/HEP/REP         NF1000-SS NF1250-SS NF1250-SS NF1250-SS NF1250-SS           NF-U, MB series         NF400-UEP NF630-UEP NF800-UEP         NF1250-SS NF1600-SS           NF-U, MB series         NF400-UEP NF630-UEP NF800-UEP         NF1250-UR           NV-C series         NV400-CP NV630-CP            NV-S-H series         NV400-SEP/HEP/REP NV630-SEP/HEP            MN series             MN series             MN series             Motor-drive type (2)         Motor-drive type (2)         100/110VDC, 100/1 (125VDC           operating voltage (V) able voltage range t5-110%) *1         3.0 (8.0)         4.0 (8.0)           AC         100/110V         3.0 (8.0)         4.0 (8.0)           AC         100/110V         4.0 (8.0)         5.0 (10.0)           Imme (s)         On Off         Less than 0.3 (self-holding)         Less than 0.3 (self-holding)           ansformer capacity (VA)         400         700         700	NF-C series         NF400-CP NF630-CP NF800-CEP         —         NF400-CP NF630           NF-C series         NF400-SP NF400-SP/HEP/REP NF400-SEP/HEP/REP NF400-SSD NF630-SP/HEP/REP NF800-SEP/HEP/REP NF800-SEP/HEP/REP         NF400-SSD NF1250-SS NF630-SSD NF1250-SSD NF1600-SSD         NF400-SP NF600-SEP           NF-U, MB series         NF400-UEP NF630-UEP NF800-UEP         NF1250-UR         NF400-UEP NF630 NF400-SEP           NV-C series         NV400-CP NV630-CP         —         NV400-CP NV630-CP           NV-S-H series         NV400-SP NV400-SEP/HEP/REP         —         NV400-CP NV630-SEP/HEP/REP           NV-S-H series         NV400-SP/HEP/REP         —         NV400-SP           NV-S-H series         MV400-SP/HEP/REP         —         —           NV-S-H series         Motor-drive type (2)         Motor-drive type (2)         Spring-chai NV800-SEP/HEP           MN series         —         —         —         —           Imperating voltage (V) able voltage range t5-110%) *1         Motor-drive type (2)         Motor-drive type (2)         Spring-chai NV800-SEP/HEP           DC         100/110V         3.0 (8.0)         4.0 (8.0)         1.0 (3.0)           AC         100/110V         3.0 (8.0)         4.0 (8.0)         1.0 (3.0)           Imme (s)         Orf         Less than 0.3 (self-holding)         0.0	NF-C series         NF400-CP NF630-CP NF800-CEP          NF400-CP NF630-CP NF800-CEP           NF-C series         NF400-SP         NF400-SP         NF1000-SS         NF400-SP           NF-S-H series         NF400-SEP/HEP/REP         NF1000-SS         NF400-SP         NF400-SP           NF-U, MB series         NF400-SEP/HEP/REP         NF1600-SS         NF630-SP         NF630-SEP/HEP/REP           NF-U, MB series         NF400-UEP NF630-UEP NF800-UEP         NF1600-SS         NF400-SP         NF630-SEP/HEP/REP           NV-C series         NV400-SP          NV400-SP         NV400-SP           NV-S-H series         NV400-SP          NV400-SP           NV-S-H series         NV400-SP/HEP/REP          NV400-SP/HEP/REP           NV-S-H series         NV400-SP/HEP/REP             NV-S-H series         Motor-drive type (2)         Motor-drive type (2)         Spring-charged type           Imperating voltage (v) able voltage range its-110%) *1         Motor-drive type (2)         Motor-drive type (2)         Spring-charged type           Imperating voltage (v) able voltage range its-110%) *1         3.0 (8.0)         4.0 (8.0)         1.0 (3.0)         10           Imperating voltage (v) able voltage range its-110%) *1         Imperating voltage (1,0,0	NF-C series         NF400-CP NF830-CP NF800-CP         —         NF400-SP         MF1000-SS           NF-S H series         NF400-SP         NF400-SP         NF1000-SSD         NF400-SP         NF1000           NF-S H series         NF630-SP         NF630-SP         NF1250-SS         NF400-SP         NF1000           NF-U, MB series         NF400-SEP/HEP/REP         NF1250-SS         NF400-SP         NF1250         NF1000           NF-U, MB series         NF400-CP NF800-UEP         NF1250-SS         NF600-SSD         NF600-SSD         NF600-SEP/HEP/REP         NF1600-SSD           NV-C series         NV400-CP NF800-UEP NF800-UEP         NF1250-UR         NF400-UEP NF800-UEP NF800-UEP         NF1600           NV-S-H series         NV400-CP NV630-CP         —         —         NV400-SP         —           NV-S-H series         NV400-SP         —         —         NV400-SP         —         —           NV-S-H series         NV400-SEP/HEP/REP         —         —         NV400-SEP/HEP/REP         —         —         MV400-SEP/HEP/REP         —         —         —         —         —         —         —         —         —         —         —         —         —         —         —         …         …         …			

\*1. ( \*2. ( ) voltages are special options and might require an external resistor. For details, consult your dealer. ) shows starting currents.

# Based on Mitsubishi MCCB Datasheet

### General precautions for motor-operated electrical MCCBs

- Motor-operated types have intermittent ratings, and therefore they should not be operated more than 10 times consecutively (one on/off counts as an operation).
- The operating voltage should be between 85~110% of the rated control voltage.
- When the breaker is tripped by trip button or breakdown (i.e., overload or short circuit), the breaker will not show that it has been tripped (except for motor-operated type 1 breakers).
- The dielectric strength of the electrical operating circuits is 1500V. When performing a dielectric strength test simultaneously with another device at a voltage over 1500V, the operating circuit terminal should be disconnected.

# **Electrically Operated MCCBs and ELCBs**

#### Motor-operated type (2)

- Electrical operation
   Forward and reverse motor rotation is changed by ball screw to
- switch the breaker ON and OFF (reset).
- Manual operation

The manual operation handle can be used to switch the breaker ON and OFF directly.

- Cautions during electrical operation
- 1. In case the UVT operates and a circuit breaker trips if the breaker has a UVT, the re-closing procedure may differ according to the state of the breaker before tripping.

When the circuit breaker trips while turned ON..... Reset (OFF) -> Turn ON

When the circuit breaker trips while turned OFF..... Turn ON (idle tripping) -> Reset (OFF) -> Turn ON

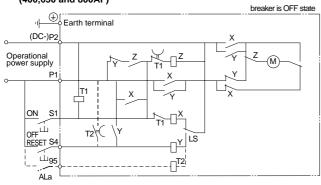
(If it fails to turn ON (idle tripping), please operate Reset (OFF) and turn ON.)

- 2. Do not send ON and OFF signals consecutively. An interval of at least 0.5s is required between each ON and OFF.
- 3. For models with auto reset capability, resetting after an NFB trip should be performed after an interval of 0.5s.

#### **Control circuit**

The dotted line shows an additional connection for the automaticreset type.

#### (1) Control circuit 1. (400,630 and 800AF)

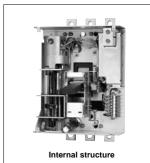


#### **Automatic Reset**

• If the breaker is an auto reset type, it contains a built-in alarm switch and the off-control circuit closes when the breaker is tripped. Since the breaker automatically resets itself after tripping, the power is easily restored by switching on the breaker again. With a UVT mounted, however, auto reset may not be possible. In this case, please consult your dealer.

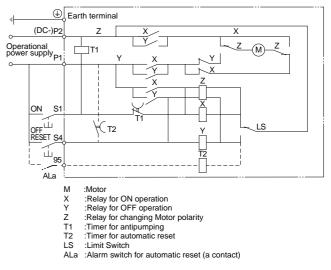
- 4. The electrical operating device is equipped with a pumping prevention circuit. Although it is possible to set the device to OFF while it is set to ON, it is impossible to return it to ON immediately. To return to ON, first shut off the ON switch, then set it back to ON.
- 5. Special care is required during electrical operation because the manual operation handle moves at high speed. Also be sure to turn off the circuit power supply when using manual operation.
- 6. With manual operation, ensure that the handle is fully extended.





Manual operation

#### (2) Control circuit 2. (NF1000-SS to NF 1600-SS)



#### Spring-charged type

- Electrical operation
  - When the ON switch is closed, the coil is excited to release the latch mechanism and the force of the closing spring turns the breaker ON instantly.

When the OFF switch is closed, a relay starts the motor which turns the breaker OFF and charges the spring simultaneously.

Manual operation

Pressing the ON button will release the latch mechanism and the force of the closing spring turns the breaker ON instantly.

Pressing the leaf spring, pulling out the manual handle and pumping it back and forth over 10 times will turn the breaker OFF and charge the spring at the same time.

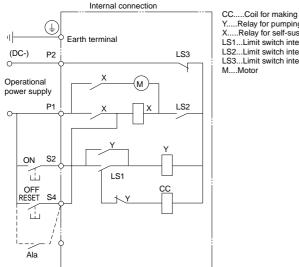
• Cautions during electrical operation

Whenever an electrical operation device is to be installed in or removed from the breaker, the breaker must be tripped and the device discharged.

Pushing the TRIP button on an MCCB with an electrical-operation device installed will not trip the breaker in the OFF state. This does not mean the breaker is faulty.

#### **Control circuit**

The dotted line shows an additional connection for the automaticreset type.



Alarm switch for automatic resetting (contact a)

Switching OFF a breaker with an electrical-operation device installed will take 3s. If instant opening is required, install an SHT or UVT to the breaker.

• The breaker contains a built-in pumping-prevention relay.

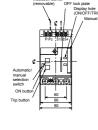


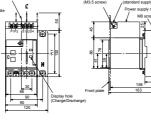
CC.....Coll for making Y....Relay for pumping prevention X....Relay for self-sustaining on OFF side LS1...Limit switch interlocking with cam LS2...Limit switch interlocking with CFF lock plate M....Motor

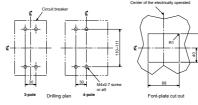
# Dimensions

Front connection

# NF125-CW, NF125-SW, NF125-HW



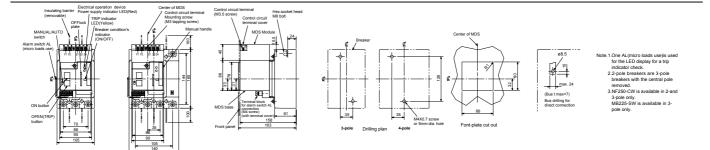




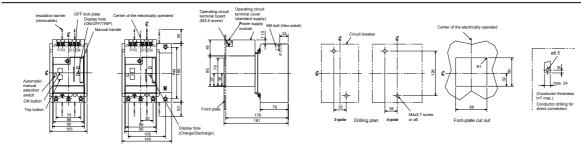
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Remarks: The 2-pole models are 3-pole models with the central pole removed. The three-pole type only is available for the model NF125-CW, and the 3-pole and 4-pole types only are available for the model NF125-SW.

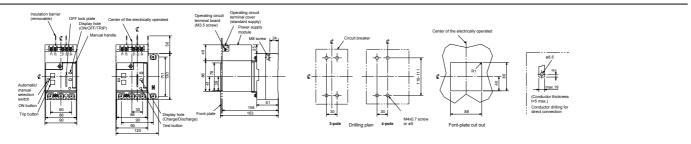
## NF160-SW, NF160-HW, NF250-CW, NF250-SW, NF250-HW, MB225-SW



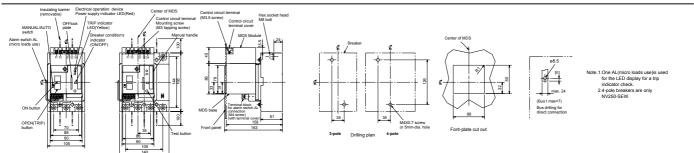
# • NF125-SGW, NF125-HGW, NF160-SGW, NF160-HGW, NF250-SGW, NF250-HGW

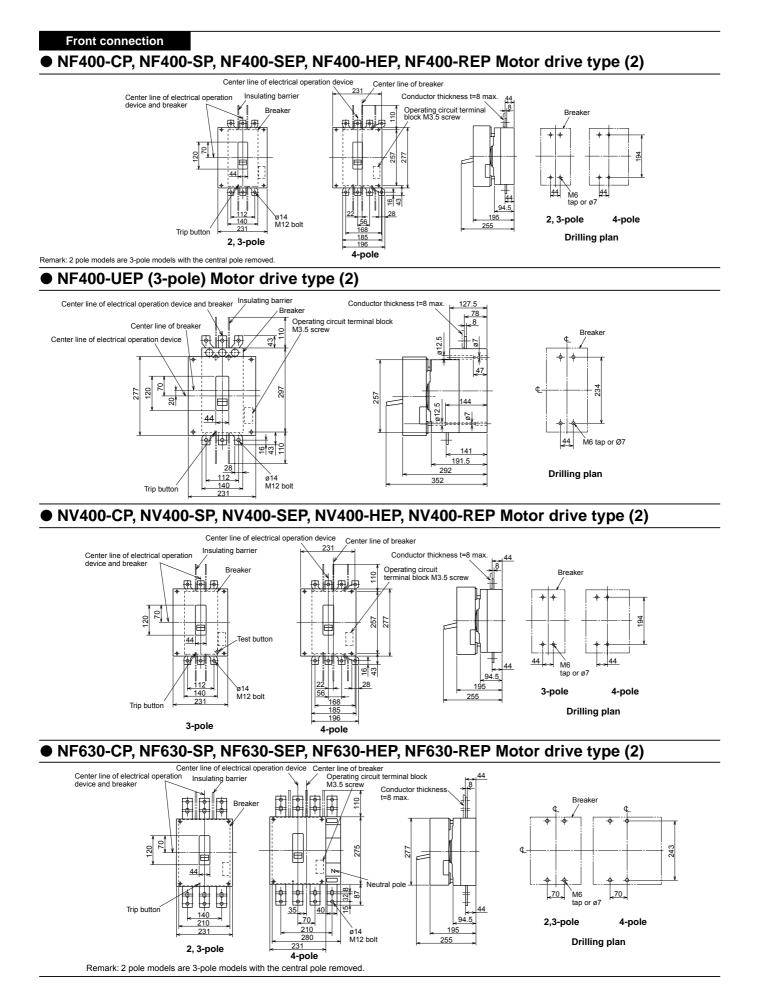


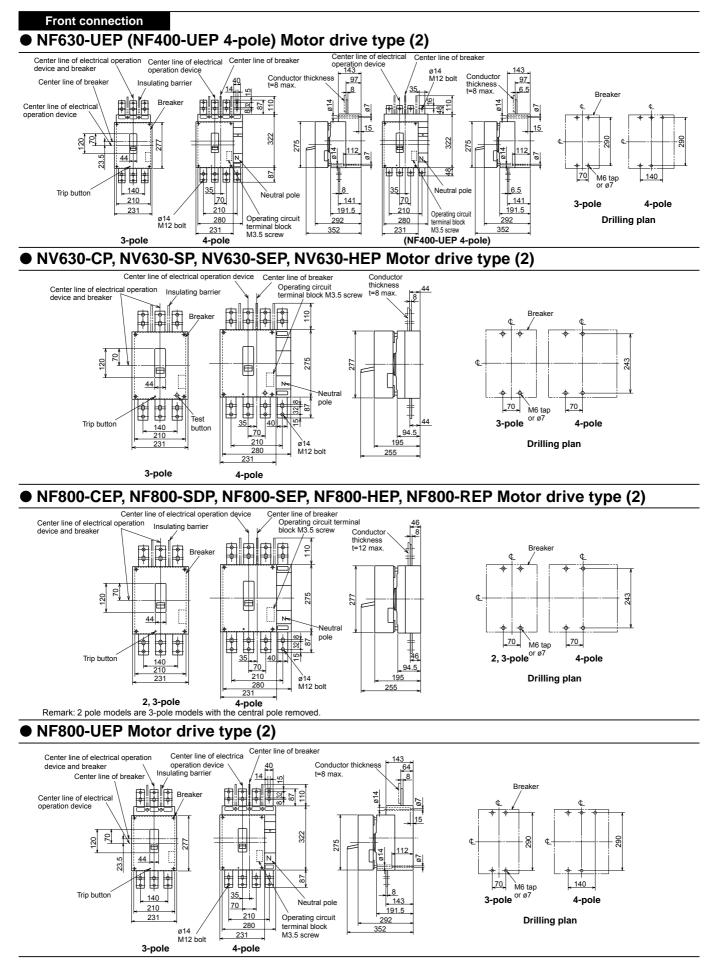
# • NV125-CW, NV125-SW, NV125-HW



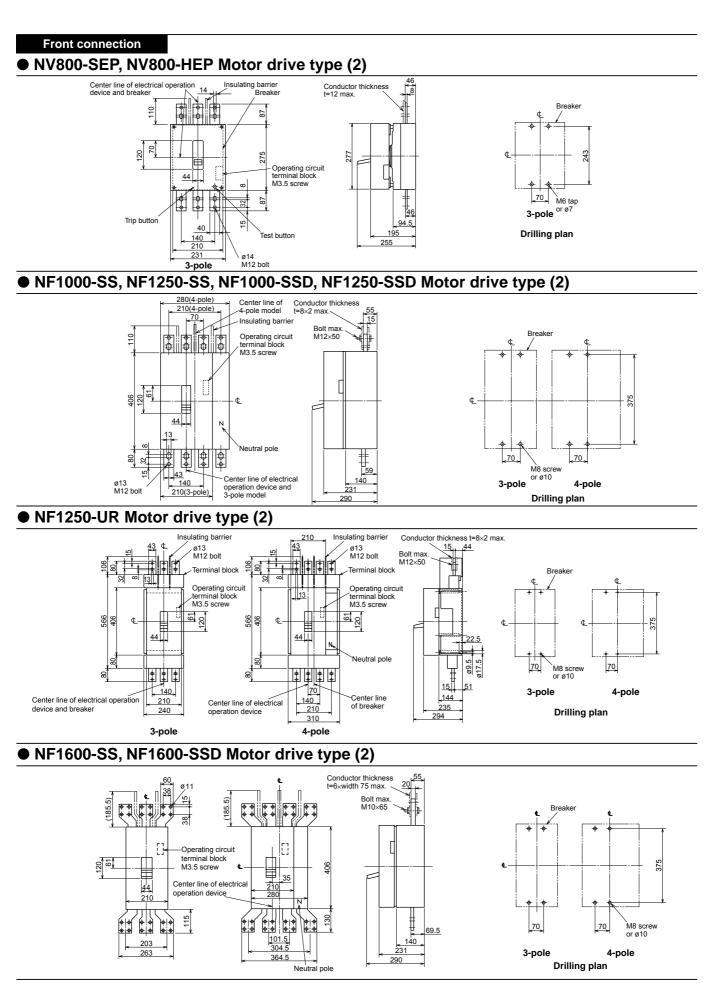
## • NV250-SEW, NV250-HEW





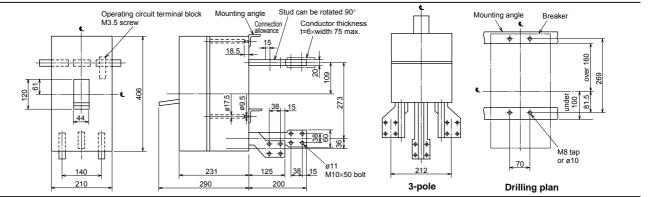


Based on Mitsubishi MCCB Datasheet

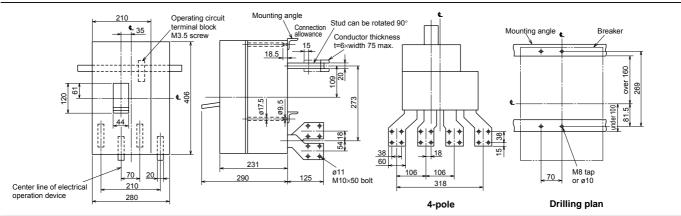


# Based on Mitsubishi MCCB Datasheet

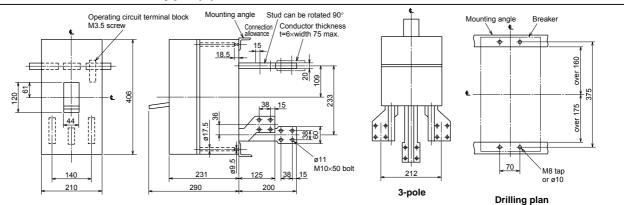
## Rear connection ● NF1600-SS (3-pole) Motor drive type (2)



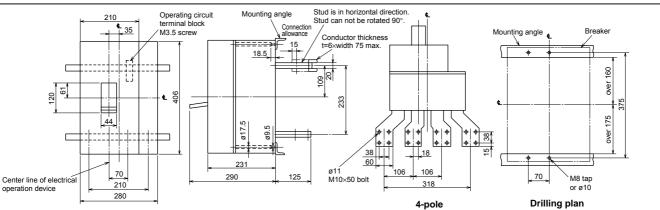
# • NF1600-SS (4-pole) Motor drive type (2)



# NF1600-SSD Motor drive type (2)



# NF1600-SSD (4-pole) Motor drive type (2)



## Based on Mitsubishi MCCB Datasheet

# 7. Mechanical Interlocks (MI)

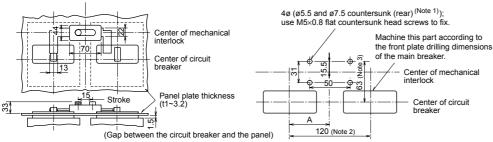
#### Table 5-33

Applicable models		Panel mouting		Direct mount on
Applicable models	of poles	Front connection, Rear connection, Plug-in	Dimension A mm	circuit breaker
NF32-SW, NF63-CW/SW/HW	2P	MI-05SW3	47.5	-
NF32-SW, NF63-CW/SW/HW, NV32-SW, NV63-CW/SW/HW, MB30-SW, MB50-CW/SW	3P	101-053003	-	MI-05SWFB3
NF63-SW/HW	4P	MI-05SW4		-
NF125-CW/SW/HW	2P	MI-05SW3	45	-
NF125-CW/SW/HW. NV125-CW/SW/HW. MB100-SW. NV125-RW	3P	101-053003		MI-1SWFB3
NF125-CW/SW/HW, NV125-CW/SW/HW, MB100-SW, NV125-RW	4P	MI-1SW4		-
NF160-SW/HW, NF250-CW/SW/HW, NV250-CW/SW/HW, NV250-SEW/HEW, MB225-SW, NV250-RW	2P 3P	MI-05SW3	-	MI-2SWFB3
NF160-SW/HW, NF250-SW/HW, NV250-SW/HW/SEW/HEW	4P	MI-2SW4		-
NF125-SGW/HGW/RGW/UGW, NF160-SGW/HGW, NF250-SGW/HGW/RGW/UGW	3P	MI-05SW3		MI-2GSWFB3
NF125-SGW/HGW/UGW, NF160-SGW/HGW, NF250-SGW/HGW/UGW	4P	MI-2SW4		-

#### Outside Dimension Diagram

#### Drilling Dimension Diagram (Front connection, Rear connection, and Plug-in)

(Front connection, Rear connection, and Plug-in)



Notes: (1) When the panel plate thickness is 2.3 or more, prepare four holes

(ø5.5 and ø9.5 countersunk (rear)). (2) These are standard dimensions for

2- and 3-pole models, but can be altered upon request.

(3) The U series have different dimensions. Please contact us for details.

Remarks: (1) Please contact us for outside

Breaker mounting (front)

F

11

70

Туре

MI-4SPFB3

MI-6SPFB3

dimensions of other models of different specifications. (2) These are not isolation-compatible.

G

194

243

P

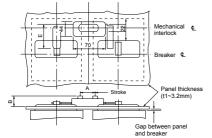
190

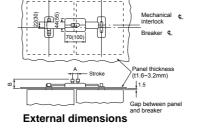
260

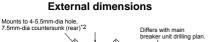
#### • Front, Rear, Plug-in

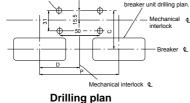
With two breakers, use a panel-mounted mechanical interlock for one-way only input. A breaker-mounting mechanical to mount on the breaker main unit can be made to order. Consult your dealer for more details.

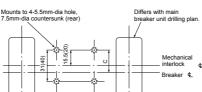
#### Front, Rear, Plug-in (panel mounting)



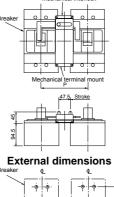














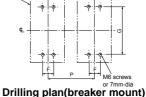


Fig.3

S1. Above 400AF, use panel thickness t=1.6~3.2mm. S2. When the panel thickness is greater than t=2.3mm, use 4-5.5mm-dia 9.5mm dia countersunk (rear).

Fig.1

#### • Table of Altered Dimensions

#### Table 5-34

Breaker	Pitch (P) *1					Dimensions (mm)						Breaker mount (*4)					
МССВ	ELCB	Stan	dard			ecial Idard	Standard		t	А	в	С	D	Е	Fig.	Туре	Fig.
		Туре	2P	3P	3	P	Туре	4P			5	(*3)	-	-		3P	]
NF400-CP/SP/SEP/HEP/REP	NV400-CP/SP/SEP/HEP/REP	MI-4SP3	1	90		210	MI-4SP4	250		47.5	33	83.5		74		MI-4SPFB3	
NF400-UEP(3P)	-	MI-45P3	-	190	-	210	IVII-45P4	250	(14.0)	47.5	33	63.5	-	/4		-	1
	NV630-CP/SP/SEP/HEP, NV800-SEP/HEP	MI-6SP3	2	20	240	_	MI-6SP4	290	(*2) -	47.5	33	83.5	_	74	Fig.1	MI-6SPFB3	Fig.3
NF400-UEP(4P), NF630-UEP, NF800-UEP	-	MI-03F3	-		_	WII-03F4	290		47.5	33	60	-	/4		-		
NF1000-SS/SSD, NF1250-SS/SSD	-	M-10SS3	2	20	-	-	MI-10SS4	290		47.5	47	37.5	1	-		-	-
NF1250-UR	-	M-12UR3	-	250	-	-	MI-12UR4	320	2.3	47.5	47	37.5	-	-	Fig.2	-	-
NF1600-SS/SSD	-	M-16SS3	3	15	-	-	MI-16SS4	426		65	54.5	39	-	-	1	-	-

\*1. Specify the breaker mounting pitch (P)
 \*2. No need to specify the panel thickness (t). (Usable panel thickness range: t=1~3.2mm. Above 400AF, use panel thickness t=1.6~3.2mm.)

\*3. For isolation purposes with 400/630/800AF models, keep the C dimension deviation within ±1mm. \*4. Enquire for more details.

Remarks: Mechanical interlock walking type (MI-W) for electrical operating can be made to order. Consult your dealer. (Above 400AF)

# 8. Handle Lock Devices and Card Holder

#### Table 5-35

Description		Lock cover (LC)	Handle lock (HL)	Handle lock (HL-S) (Note 2)	OFF Lock with 3 Padlock	Card holder	
Appearance							
NF30-CS, MB30-CS	2P	LC-03CS	HL-05FH				
NF30-CS, NV30-CS, MB30-CS	3P	LC-03C3	112-03111		_		
NF32-SW, NF63-CW/SW/HW	2P		(Note 1)	HLS-05SW2P			
NF32-SW, NF63-CW/SW/HW, NV32-SW, NV63-CW/SW/HW MB30-SW, MB50-CW/SW	3P	LC-05SW	HLF-05SW HLN-05SW	HLS-05SW			
NF63-SW/HW	4P						
NF125-CW/SW	2P		(Note 1)	HLS-1SW2P			
NF125-HW	2P		(Note 1)	HLS-15W2P		CH-P No.5	
NF125-CW/SW/HW, NV125-CW/SW/HW MB100-SW, NV125-RW	ЗP	LC-1SW	HLF-1SW HLN-1SW	HLS-1SW		CH-P N0.5	
NF125-SW/HW, NV125-SW/HW	4P						
NF160-SW/HW, NF250-CW/SW/HW, NV250-CW/SW/HW NV250-SEW/HEW, MB225-SW NV250-RW	2P 3P 4P	LC-2SW	(Note 1) HLF-2SW HLN-2SW	HLS-2SW			
NF125-SGW/HGW, NF160-SGW/HGW, NF250-SGW/HGW NF125-RGW/UGW, NF250-RGW/UGW	3P, 4P	LC-2GSW	HLF-2GSW (Note 1) HLN-2GSW	HLS-2GSW	HLF3-2GSW		

Notes: (1) HLF types are used for OFF-lock, and HLN types for ON-lock. (2) HL-S types are used for OFF-lock.

Remark: (1) Users are requested to prepare padlocks for HL and HL-S types. (25mm padlock for HL, and 35mm padlock for HL-S.)

#### Table 5-36

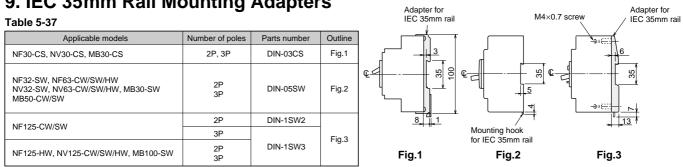
Handle (HT)	Handle lock (HL)	Handle lock (HL-S)	Card holder
HT-4CP	HL-4CP (*1·2)		
		HLS-4SP (*1)	
		HLS-4UP (*1)	
HT-4SP	HL-4SP (*1·2)	HLS-6SP (*1) HLS-6UP (*3)	CH-P No.3
HT-10SS	HL (*1)	_	
	HT-4SP	Image: High state         Image: High state           HT-4CP         HL-4CP (*1-2)           HT-4SP         HL-4SP (*1-2)	Image: High state         Image: High state

Remarks: 1. Padlocks for HL and HL-S must be provided by the customer.

\*1. Must be ordered with breaker.

\*1. Indic to experience with prease.
 \*2. The HL without padlock can be used as a lock cover (LC).
 \*3. Applicable types are NF400-UEP (4P) and NF630/800-UEP (3P, 4P).

# 9. IEC 35mm Rail Mounting Adapters



Adapter for