KEMA KEUR	ESC	005	PCT	RCC
Netherland	Czech	Ukrain	Russia	South Africa

NM1 Moulded Case Circuit Breaker

1. General

1.1 Certificates: KEMA, RCC, PCT, ESC, UKRTEST;
1.2 Electric ratings: AC 690V,50/60HZ, 10～1250A;
1.3 Mounting mode: Vertical and horizontal;
1.4 Standard: IEC/EN60947-2.

2. Type Designation

NM1— □ □ □ / □ □ □ □

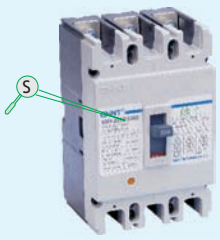
- Type of N-pole for 4-P breaker*
- Application: Blank: for power distribution; 2: for motor protection
- Release type and accessory code (please refer to table on page 136)
- Number of poles
- Operation mode: Blank: direct operation with handle; P: motor-driven operation; Z: Operation with rotary handle
- Code of Breaking capacity : S-standard type; H-higher type; R-current limiting type
- Frame size rated current
- Design sequence number
- MCCB code
- Company code

Note *: There are 4 types of N-pole for 4P breaker
A: without current release components, N-Pole is always at making status, not makes and breaks with other three poles;
B: Without current release components, N-Pole makes with the other three poles(N-pole first makes then breaks);
C: With current release components, N-Pole makes and breaks with other three poles(N-pole first makes then breaks);
D: With current release components, N-Pole is always at making status, not makes and breaks with other three poles;

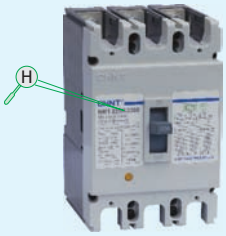
3. Classification

According to breaking capacity of breaker:

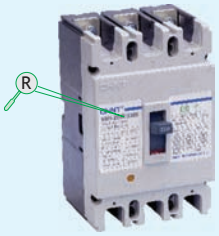
Standard type (S)



Higher type (H)



Current-limiting type (R)



According to wiring mode:

Front connection

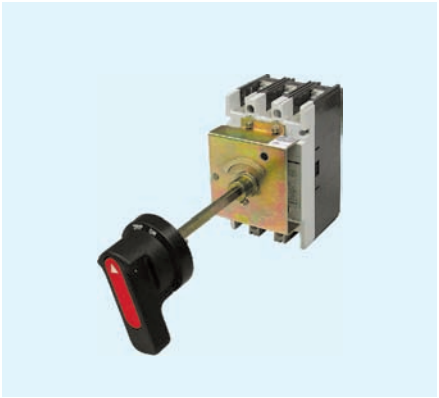
Rear conection

plug-in

According to operation mode:

Direct operation with handle

Operation with rotary handle



Motor-driven operation

According to number of poles:

2P

3P

4P

4. Operation Conditions

4.1 Temperature: -5℃～+40℃; the average value within 24h shall not exceed +35℃.(please contact with us if temperature at the mounted site beyond above values); for the circuit breaker with thermo-magnetic release, +40℃ is set to be the standard temperature for ratings. For temperature not between -5℃～+40℃, please contact us for temperature compensation correction;

4.2 Altitude: not exceed 2000m (Please contact with us for reduction coefficient if altitude at the mounted site beyond 2000m)

4.3 Pollution grade: Grade 3;

4.4 Air conditions:

At mounting site, relative humidity not exceed 50% at the max temperature of +40℃, higher relative humidity is allowable under lower temperature. For example, RH could be 90% at +20℃, special measures should be taken to occurrence of dews.

5. Technical Data

Frame size current		63			100					225					400				630				800			1250
Rated current (A)		10, 16, 20, 25 32, 40, 50, 63			16, 20, 25, 32, 40 50, 63, 80, 100					100, 125 160, 180, 200, 225					225, 250 315, 350, 400				400, 500, 630				630, 700, 800			700, 800, 1000, 1250
Rated insulation voltage (V)		500			800					800					800				800			800	500			500
Rated impulse withstand voltage(V) Uimp		6			8					8					8				8			8	8			8
Rated operational voltage (V)		380/400/415			380/400/415/690					380/400/415/690					380/400/415/690				380/400/415/690			380/400/415/690	380/400/415			380/400/415
Arcing distance (mm)		⩽50			⩽50					⩽50					⩽100				⩽100				⩽100			⩽100
Number of poles		3		4	2	3		4		2	3		4		3		4		3		4		3		4	3
																										
Breaking capacity code		S	H	H	H	S	H	R	H	H	S	H	R	H	S	H	R	S	S	H	R	S	H	R	H	H
Frame size rated current (A)		63	63	63	100	100	100	100	100	225	225	225	225	225	400	400	400	400	630	630	630	630	800	800	800	1250
Rated ultimate short-circuit breaking capacity **Icu** (kA, RMS) Test sequence:O-t-CO	AC 380V/400V/415V	15	35	35	50	25	50	65	50	50	25	50	65	50	35	50	70	35	35	50	70	35	60	70	60	65
	AC 690V	-	-	-	8	3	8	10	8	8	5	8	10	8	10	12	15	10	12	13		12	-	-	-	-
Rated service short-circuit breaking capacity **Ics** (kA, RMS) Test sequence:O-t-CO-t-CO	AC 380V/400V/415V	7.5	17.5	17.5	25	12.5	25	32.5	25	25	12.5	25	32.5	25	17.5	25	35	17.5	17.5	25	35	17.5	30	35	30	32.5
	AC 690V	-	-	-	4	1.5	4	5	4	4	2.5	4	5	4	5	6	7.5	5	6	6.5		6	-	-	-	-
Front connection		■			■					■					■				■				■			■
Rear connection		■			■					■					■				■				■			
Plug in type		■			■					■					■				■				■			
Shunt release		■			■					■					■				■				■			■
Under-voltage release		■			■					■					■				■				■			■
Auxiliary contact		■			■					■					■				■				■			■
Alarm contact		■			■					■					■				■				■			

Note: ① For products of 63H~800H, zero-arcing breakers are available(except 800H/4P).
② The symbols O-t-Co, O-t-Co-t-Co are used for defining the sequence of operations.
O: breaking operation; t: the time interval between two successive short-circuit operations; CO: a making operation followed, after the appropriate opening time, by a breaking operation.

6. Release

Inverse time breaking action property of the over current releasing of the breaker (for power distribution) at the status that all poles are electrified simultaneously

No.	Test current	I/In	Conventional time	Initial status
1	Conventional non-trip current	1.05	2h(In＞63A), Ih(In≤63A)	Cold status
2	Conventional trip current	1.30	2h(In＞63A), Ih(In≤63A)	Right after test no. 1

Inverse time-delay breaking operation property of the over current tripping of the breaker(for motor protection) at the status that all poles are electrified simultaneously(conforms to IEC60947-3)

Serial No.	Setting current	Conventional time	Start-up status	Remark
1	1.0In	＞2h	Cold status	
2	1.2In	≤2h	Right after test number 1	
3	1.5In	≤4min	Cold status	10≤In≤225
		≤8min	Cold status	225≤In≤630
4	7.2In	4s≤t≤10s	Cold status	10≤In≤225
		6s≤t≤20s	Cold status	225≤In≤630

N-pole of 4P circuit breaker is at the right side, see table below for rated current of C, D type N-pole release.

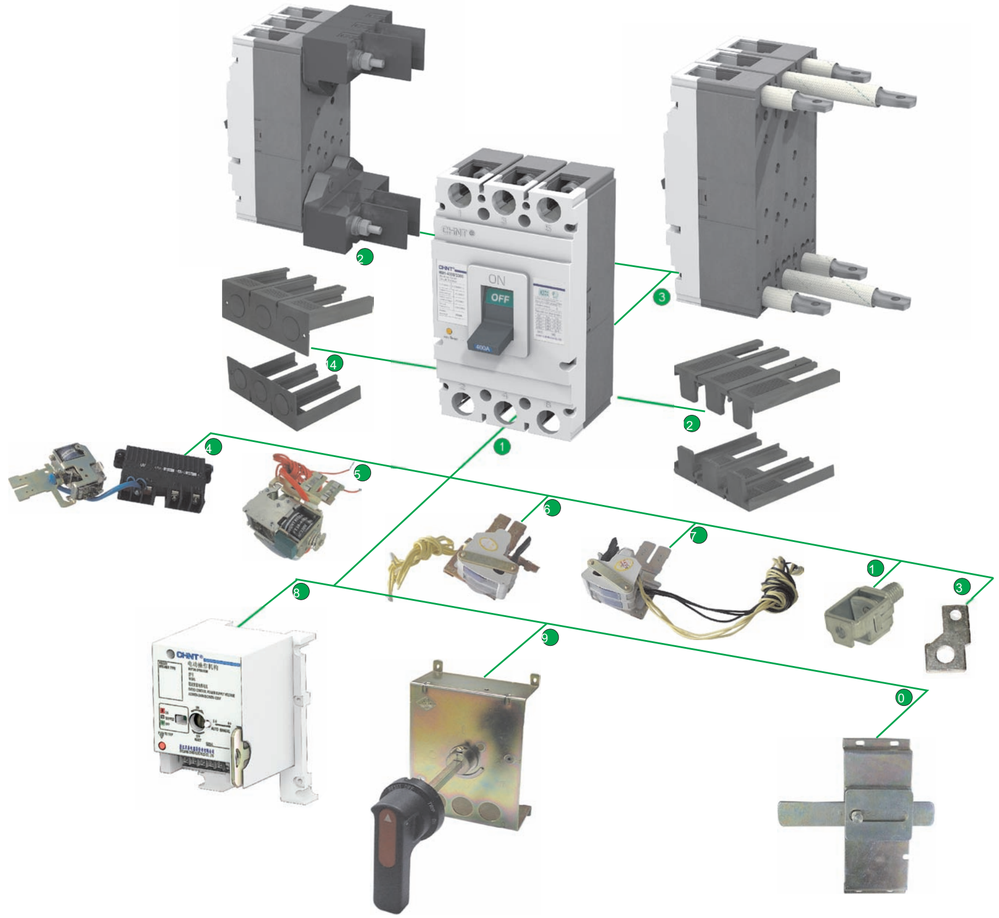
Frame size rated current (A)	Rated current (A)	Rated current at N-pole (A)
63	10	10
	16	16
	20	20
	25	25
	32	32
	40	40
	50	50
	63	63
100	10	10
	16	16
	20	20
	25	25
	32	32
	40	40
	50	50
	63	63
	80	63
	100	63
225	100	100
	125	100
	160	100
	180	100
	200	100
	225	125
400	225	225
	250	225
	315	225
	350	250
	400	250
630	400	250
	500	315
	630	350
800	630	350
	700	400
	800	500

Note: The rated current of N-pole can be made equal to the other phases.

7. Product overview

NM1 Moulded Case Circuit Breaker

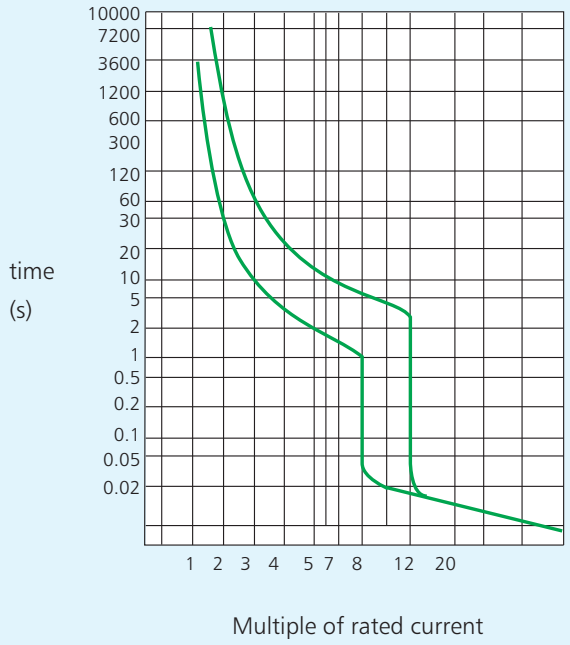
1. MCCB (fixed type)
2. Plug-in type
3. Rear connection
4. Under-voltage release
5. Shunt release
6. Alarm contact
7. Auxiliary contact
8. Motor-driven operation mechanism
9. Extended manual operation handle
10. Mechanical interlock
11. Cage clamp terminal (Refer to P82)
12. Short terminal cover
13. Front connection plate



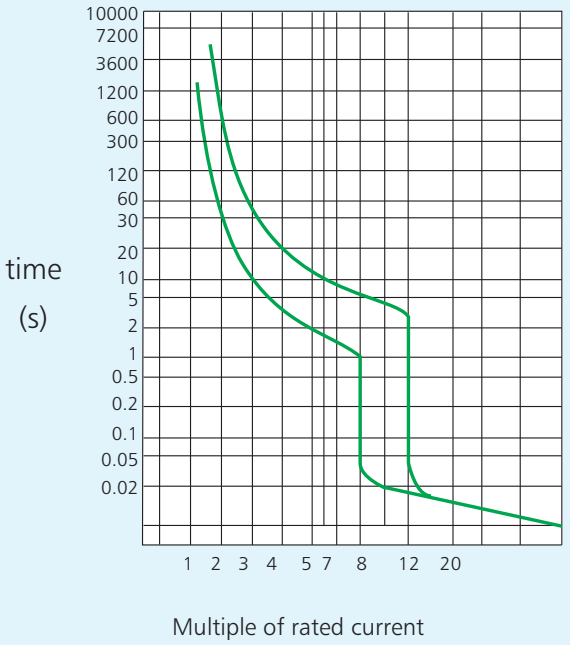
8. Curves(for power distribution, calibrated at 40℃)

8.1 Curves

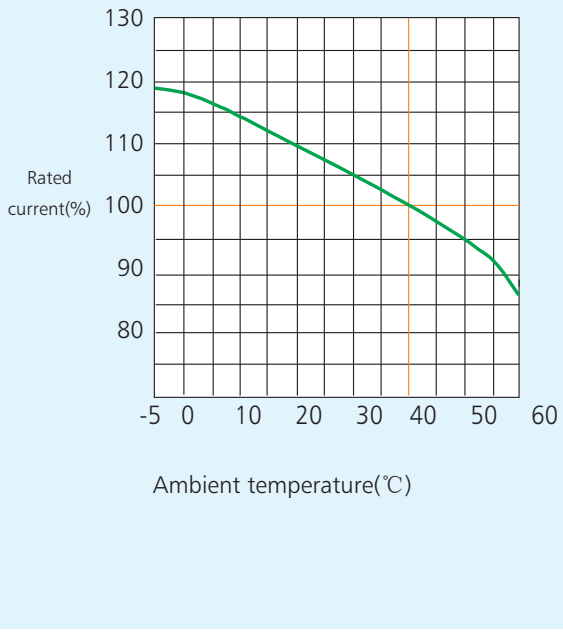
Operation property curve of NM1-63(10~32)、NM1-100(16~32)



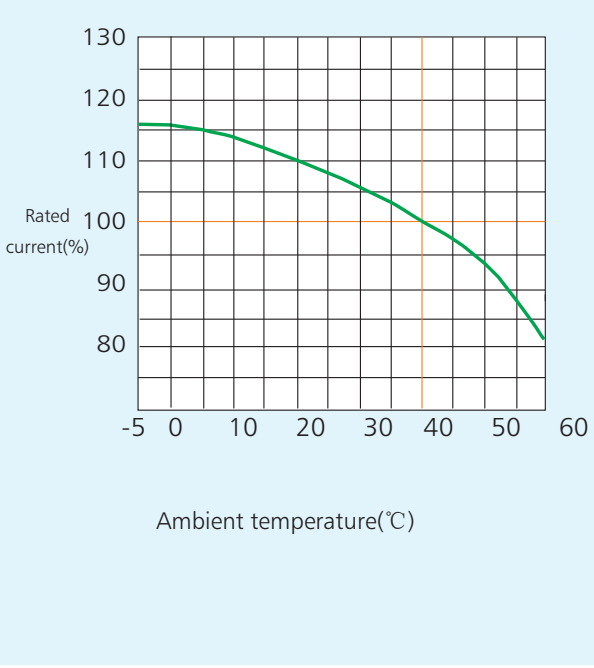
Operation property curve of NM1-63(40~63)、NM1-100(40~100)



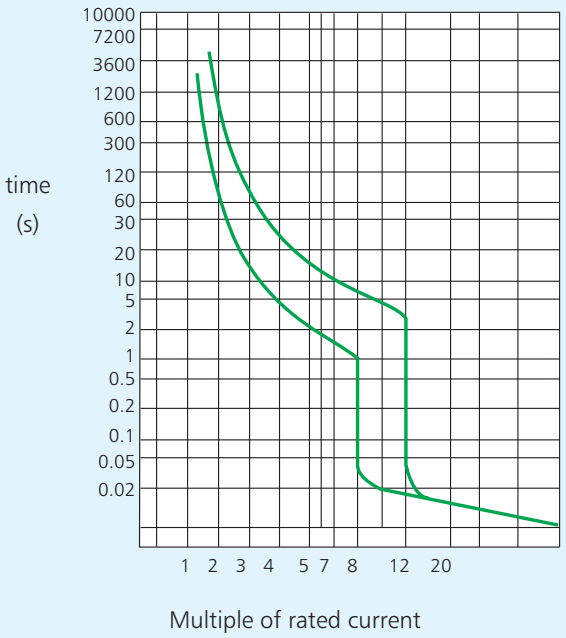
Temperature compensation curve of NM1-63(10~32)、NM1-100(16~32)



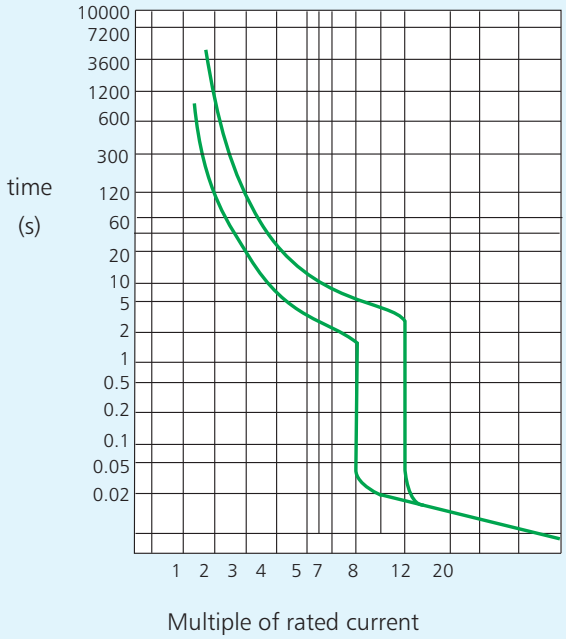
Temperature compensation curve of NM1-63(40~63)、NM1-100(40~100)



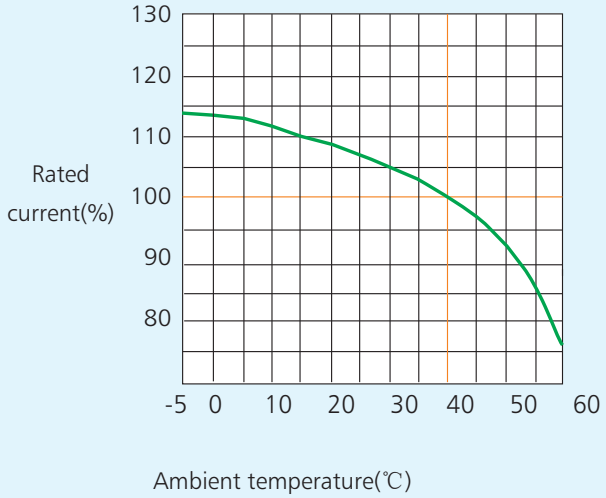
Operation property curve of NM1-225



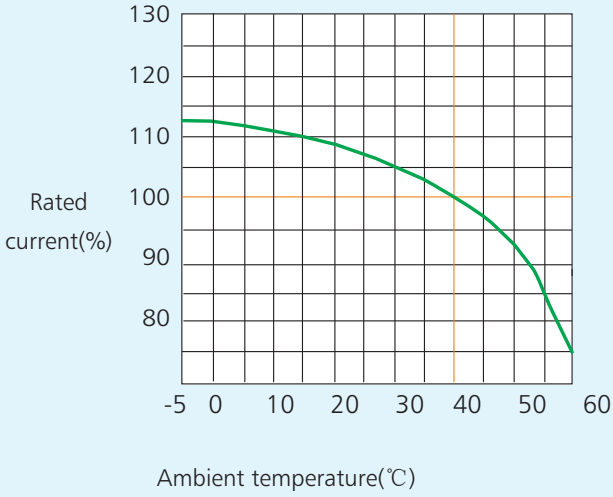
Operation property curve of NM1-400



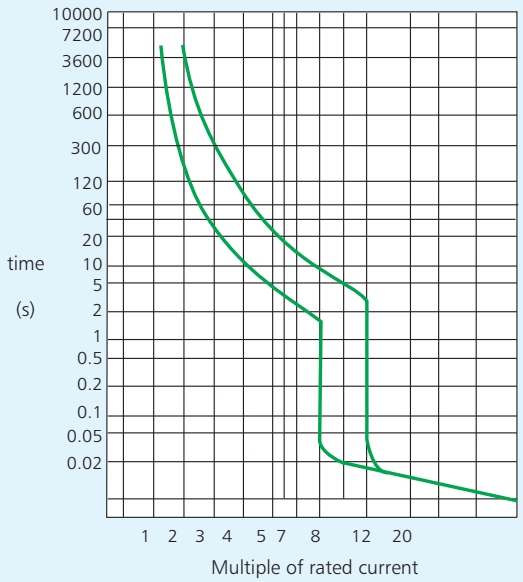
Temperature compensation curve of NM1-225



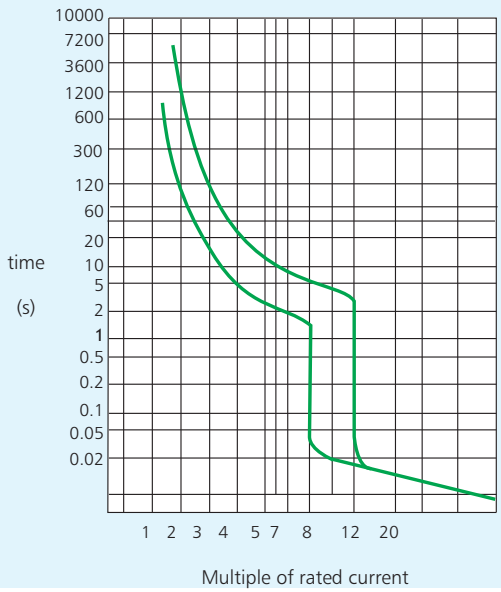
Temperature compensation curve of NM1-400



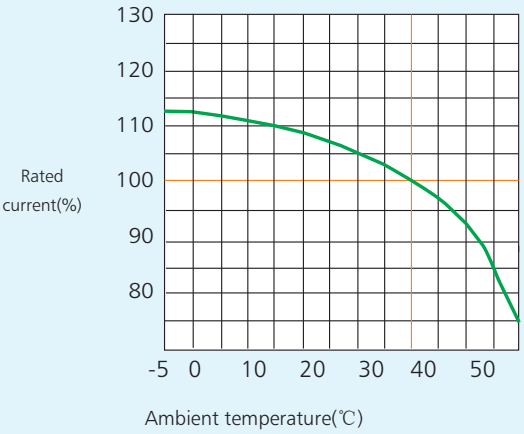
Operation property curve of NM1-630、800



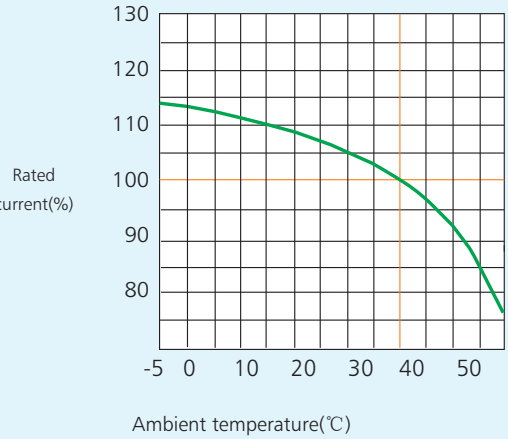
Operation property curve of NM1-1250



Temperature compensation curve of NM1-630、800



Temperature compensation curve of NM1-1250



8.2 Temperature compensation correction

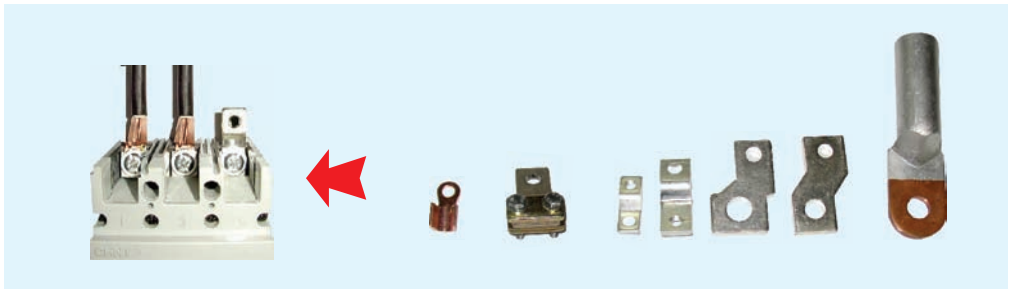
NM1 series temperature compensation coefficient table（calibration at 40℃, for the calibration at other temperature standards please contact with us）

Type	Current range	Compensation coefficient													
		-5℃	0℃	5℃	10℃	15℃	20℃	25℃	30℃	35℃	40℃	45℃	50℃	55℃	60℃
NM1-63S, H, R	10~32A	1.18	1.17	1.16	1.14	1.12	1.09	1.07	1.05	1.03	1	0.97	0.95	0.92	0.87
NM1-63S, H, R	40~63A	1.16	1.16	1.15	1.14	1.12	1.10	1.08	1.06	1.03	1	0.97	0.94	0.87	0.82
NM1-100S, H, R	16~32A	1.18	1.17	1.16	1.14	1.12	1.09	1.07	1.05	1.03	1	0.97	0.95	0.92	0.87
NM1-100S, H, R	40~100A	1.16	1.16	1.15	1.14	1.12	1.10	1.08	1.06	1.03	1	0.97	0.94	0.87	0.82
NM1-225S, H, R	101~225A	1.14	1.13	1.13	1.12	1.10	1.08	1.07	1.05	1.03	1	0.97	0.93	0.86	0.76
NM1-400S, H, R	226~400A	1.13	1.12	1.12	1.11	1.10	1.08	1.06	1.05	1.03	1	0.97	0.93	0.85	0.75
NM1-630S, H, R	401~630A	1.13	1.12	1.12	1.11	1.10	1.08	1.07	1.05	1.03	1	0.97	0.93	0.85	0.75
NM1-800H, R	631~800A	1.13	1.12	1.12	1.11	1.10	1.08	1.07	1.05	1.03	1	0.97	0.93	0.85	0.75
NM1-1250H	700~1250A	1.14	1.13	1.12	1.11	1.10	1.09	1.07	1.05	1.03	1	0.97	0.92	0.85	0.76

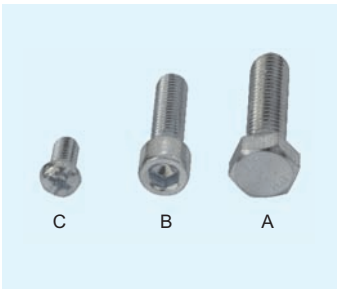
9. Wiring

Front connection(Fixed connection)

Extended connection terminals (for products 10~1250A, extended terminals are available)



Connection screws



Frame level	Current (A)	Breaking capacity code	Front connection screw		
			Hexagonal socket screw (B)	Hexagonal head screw (A)	Cross screw (C)
63	6	S	■		
		H	■		
	10	S	■		
		H	■		
	16	S	■		
		H	■		
	20	S	■		
		H	■		
	25	S	■		
		H	■		
	32	S	■		
		H	■		
	40	S	■		
		H			
	50	S	■		
		H			
	63	S	■		
		H			
100	16	S			■
		H			■
		R			■
	20	S			■
		H			■
		R			■
	25	S			■
		H			■
		R			■
	32	S			■
		H			■
		R			■
	40	S			■
		H			■
		R			■

Frame level	Current (A)	Breaking capacity code	Front connection screw		
			Hexagonal socket screw (B)	Hexagonal head screw (A)	Cross screw (C)
100	16	S			■
		H			■
		R			■
	20	S			■
		H			■
		R			■
	25	S			■
		H			■
		R			■
	32	S			■
		H			■
		R			■
	40	S			■
		H			■
		R			■
100	50	S			■
		H			■
		R			■
	63	S			■
		H			■
		R			■
	80	S			■
		H			■
		R			■
	100	S			■
		H			■
		R			■
225	100	S	■		
		H	■		
		R	■		
	125	S	■		
		H	■		
		R	■		
	160	S	■		
		H	■		
		R	■		
	180	S	■		
		H	■		
		R	■		
	200	S	■		
		H	■		
		R	■		
	225	S	■		
		H	■		
		R	■		
	225	S		■	
		H		■	
		R		■	
	250	S		■	
		H		■	
		R		■	

Frame level	Current (A)	Breaking capacity code	Front connection screw		
			Hexagonal socket screw (B)	Hexagonal head screw (A)	Cross screw (C)
400	315	S		■	
		H		■	
		R		■	
	350	S		■	
		H		■	
		R		■	
	400	S		■	
		H		■	
		R		■	
630	400	S		■	
		H		■	
		R		■	
	500	S		■	
		H		■	
		R		■	
	630	S		■	
		H		■	
		R		■	
800	630	H	■		
		R	■		
	700	H	■		
		R	■		
	800	H	■		
		R	■		
1250	700	H	■		
	800	H	■		
	900	H	■		
	1000	H	■		
	1250	H	■		

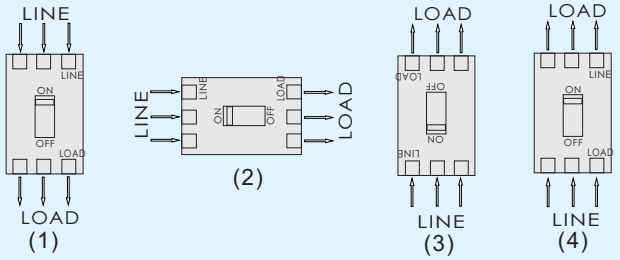
Cage clamp terminals (for products 16~630A, cage clamp terminals are available)

Rear connection

Plug-in connection

Rear connection is applicable to 3P and 4P products of NM1-63~NM1-800

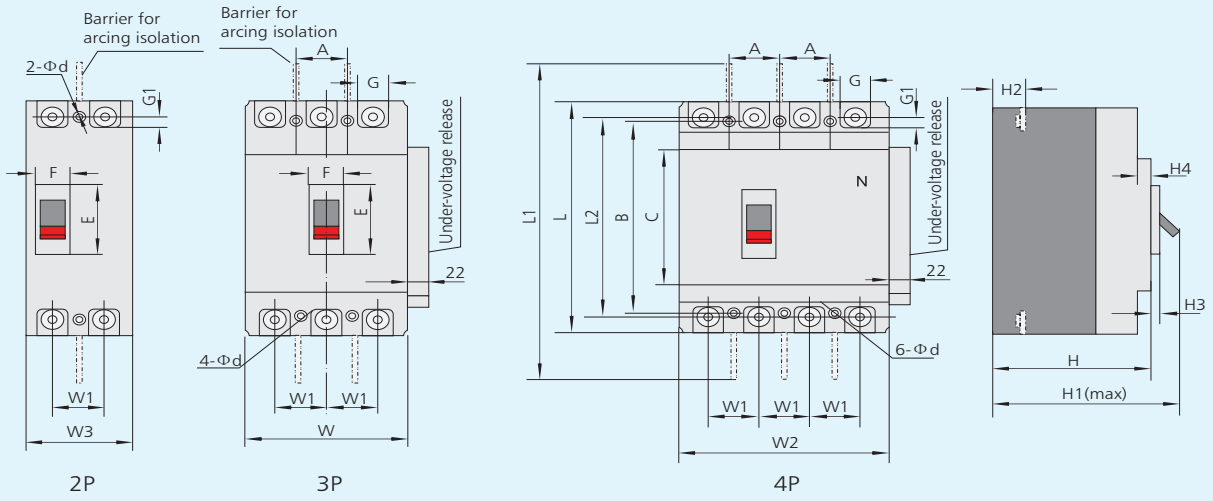
Plug-in connection is applicable to 3P and 4P products of NM1-63~NM1-800



Modes of down-lead (1) and (2) illustrated in the figure are available for your wiring operation. For its breaking capacity may be affected, mode of down-lead (3) is not recommended, before reception of any authorized announcement from the manufacturer; the mode of down-lead (4) is prohibited for your wiring.

10. Overall and Mounting Dimensions

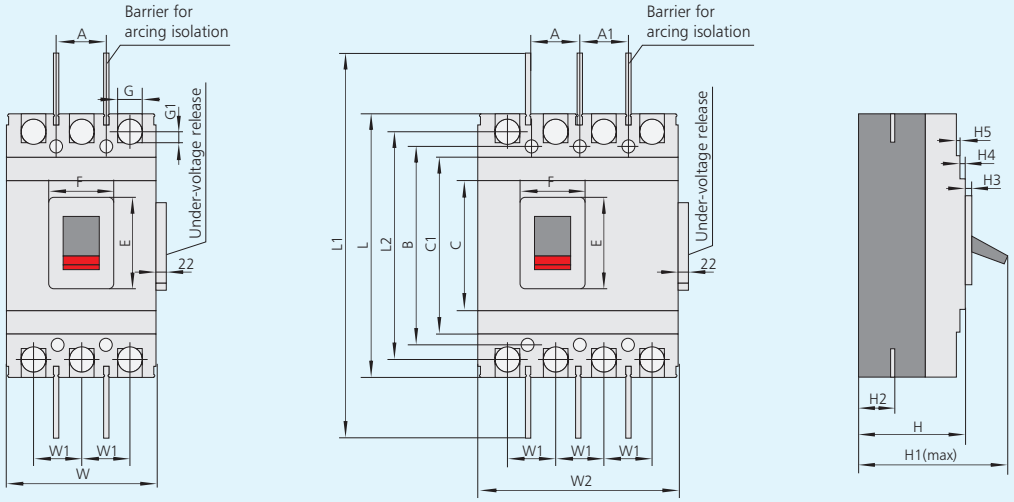
Overall and mounting dimensions of NM1-63、100、225(Fixed type)



(mm)

		Model					
		NM1-63S	NM1-63H	NM1-100S	NM1-100H NM1-100R	NM1-225S	NM1-225H NM1-225R
Overall dimensions	C	85	85	84	84	102	102
	E	48	48	50	50	50	50
	F	22	22	22	22	22	22
	G	14	14	17.5	17.5	23	23
	G1	6.5	6.5	7.5	7.5	11.5	11.5
	H	73	81	68	86	86	103
	H1	90	98.5	86	102	110	127
	H2	20	27	24	24	24	24
	H3	4	4	4	4	4	4
	H4	6	6	7	7	5	5
	L	135	135	155	155	165	165
	L1	170	173	255	255	360	360
	L2	117	117	136	136	144	144
	W	76	76	90	90	105	105
	W1	25	25	30	30	35	35
	W2	-	101	-	120	-	140
	W3	-	-	-	64.5	-	74.5
Mounting dimensions	A	25	25	30	30	35	35
	B	117	117	129	129	126	126
	Φd	3.5	3.5	4.5×6	4.5×6	5.5	5.5

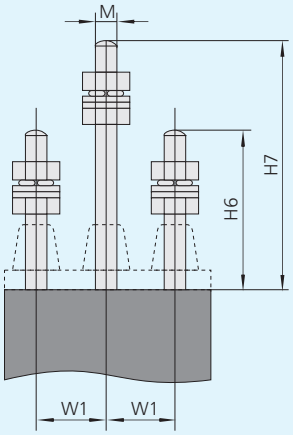
Overall and mounting dimensions of NM1-400、630、800、1250(Fixed type)



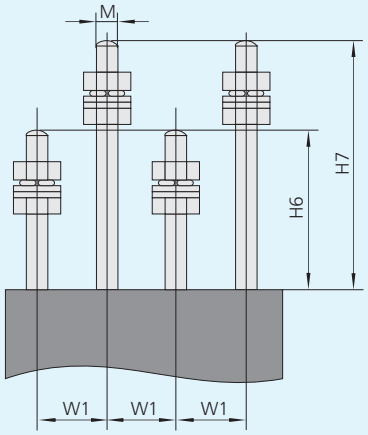
(mm)

		Model						
		NM1-400S	NM1-400H NM1-400R	NM1-630S	NM1-630H	NM1-630R NM1-800H/R	NM1-800H/4P	NM1-1250H
Overall dimension	C	102	129	134	134	154	135.5	265.5
	C1	179	175	184	184	204	206.5	345.5
	E	90	89	89	89	106	91	97
	F	62	65	65	65	66	52	78
	G	28	30.5	40	44	44	45	-
	G1	13	10.5	13.5	13.5	12.5	12	-
	H	104	107	111	111	107	109	141
	H1	155	150	160	160	148	156	202
	H2	38	39	44	44	33	36.5	58
	H3	6	6	6	6	4.5	5	16.5
	H4	6	4.5	3.5	3.5	4.5	6	2
	H5	2.5	4.5	4.5	4.5	8	7	4.5
	L	257	257	270	270	280	276	406
	L1	457	457	470	470	470	485	706
	L2	225	225	234	234	243	243	375
	W	140	150	182	182	210	-	210
	W1	44	44	58	58	70	70	70
	W2	198	-	240	-	-	280	-
Mounting dimensions	A	44	44	58	58	70	70	70
	A1	50	-	58	-	-	-	-
	B	194	194	200	200	243	243	375
	Φd	7	7	7	7	7	7	10

Overall and mounting dimensions of NM1-63、100、225(rear connection)

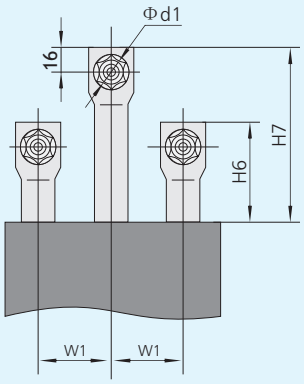


3P

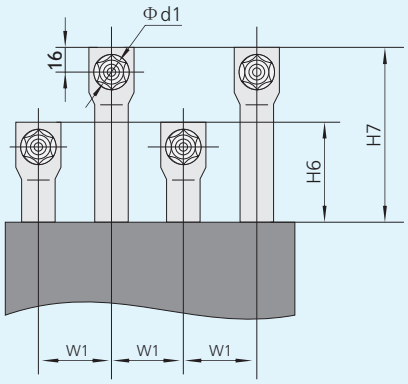


4P

Overall and mounting dimensions of NM1-400、630、800(rear connection)

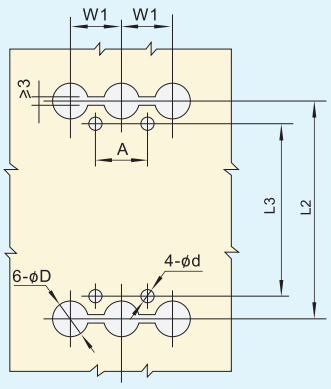


3P

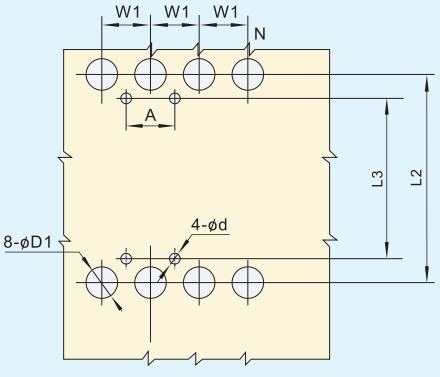


4P

Boring diagram of rear connection

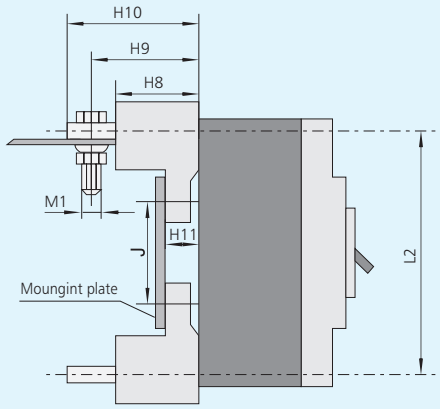


3P

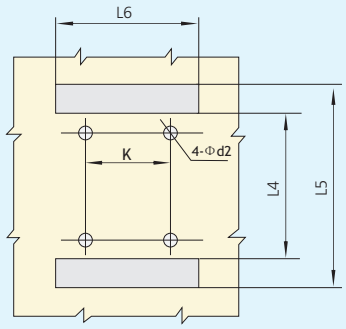


4P

Plug-in type



3P mounting diagram



3P boring diagram of mounting plate

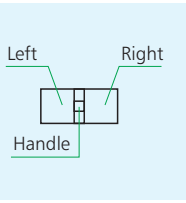
(mm)

		Model						
		NM1-63S NM1-63H	NM1-100S NM1-100H NM1-100R	NM1-225S NM1-225H NM1-225R	NM1-400S	NM1-400H NM1-400R	NM1-630S NM1-630H	NM1-630R NM1-800H NM1-800R
Dimensions of rear connection and plug-in type	A	25	30	35	44	44	58	70
	Φd	3.5	4.5	5.5	7	7	7	7
	Φd1	-	-	-	Φ12.5	Φ12.5	Φ16.5	Φ16.5
	Φd2	6	8	8	8.5	9	8.5	12
	ΦD	8	24	26	31	33	37	37
	ΦD1	8	16	20	33	37	37	37
	H6	44	68	66	60	65	65	48
	H7	66	108	110	120	120	125	125
	H8	28	51	51	61	60	60	87
	H9	38	65.5	72	-	83.5	93	-
	H10	44	78	91	99	106.5	112	106
	H11	8.5	17.5	17.5	22	21	21	26.5
	L2	117	136	144	225	225	234	243
	L3	117	108	124	194	194	200	243
	L4	97	95	90	165	163	165	173
	L5	138	180	190	285	285	302	305
	L6	80/105*	95/125*	110/145*	145/203*	155	185/245*	215/285*
	M	M6	M8	M10	-	-	-	-
	K	50.2	60	70	60	60	100	90
	J	60.7	62	54	129	130	123	143
	M1	M5	M8	M8	M10	M10	M12	M14
	W1	25	30	35	44	44	58	70

Note: With "*" stands for dimension of 4p circuit breaker

11. Accessories

Inner accessories



Auxiliary contact

Auxiliary alarm contact

Shunt release

Alarm contact

Under-voltage release

Accessory	Accessory code		Mounting and wiring mode				
	Magnetic only release	Compound release	NM1-100H NM1-225H	NM1-400S NM1-400H、R NM1-630S、H	NM1-63S、H NM1-100S、H、R NM1-225S、H、R	NM1-630R NM1-800H、R	NM1-1250H
			2P	3P、4P	3P、4P	3P、4P	3P
No accessory	200	300	□	□	□	□	□
Alarm contact	208	308	□●	●□	●□	●□	
Shunt release	210	310	□■	■□	■□	□■	□■
Auxiliary contact	220	320	□○	○□	○□	○□	○□
Under-voltage release	230	330	□▲	□▲	□▲	▲□	□▲
Shunt release, auxiliary contact	240	340		■□○	■□○	○□■	○□■
Shunt release, under-voltage release	250	350		■□▲	■□▲	▲□■	
Two groups of auxiliary contacts	260	360		○□○	○□○	○□○	○□○
Auxiliary contact, under-voltage release	270	370		○□▲	○□▲	▲□○	○□▲
Shunt release, alarm contact	218	318		●□■	●□■	●□■	
Auxiliary alarm contact	228	328		● ○□	● ○□	● ○□	
Under-voltage release, alarm contact	238	338		●□▲	●□▲	▲ ●□	
Shunt release, auxiliary alarm contact	248	348		● ○□■	● ○□■	● ○□■	
Two groups auxiliary contact of auxiliary alarm contact	268	368		● ○□○	● ○□○	● ○□○	
Under-voltage release auxiliary alarm contact	278	378		● ○□▲	● ○□▲	▲ ●□○	

11.1 Under-voltage release

a. Un=70～35% Us, reliable operation

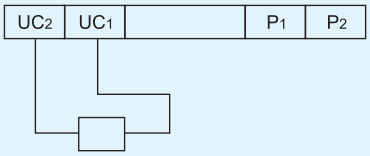
b. Un=<35% Us,prevent breaker from making

c. Un=>85% Us, reliable operation

The rated voltage of the under-voltage release is 50Hz, 230V and 400V.

Code of under-voltage release

code	A2	A4	D1	D2
voltage	AC 230V	AC 400V	DC 110V	DC 230V
rated frequency	50Hz	50Hz	-	-



Wiring diagram of under-voltage release

11.2 Shunt release

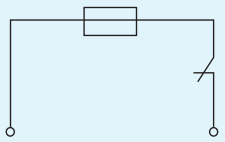
The rated control voltage of shunt release is 50Hz, 230V and 400V.

Un=70%～110% Us, reliable operation

Code of shunt release

code	A1	A2	A4	D1	D2	D3
voltage	AC 110/127V	AC 230V	AC 400V	DC 110V	DC 230V	DC 24V
rated frequency	50Hz	50Hz/60Hz	50Hz/60Hz	-	-	-

Note: when voltage is DC 24V, rated current should be up to 5A±10%



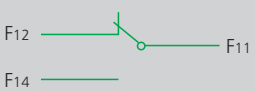
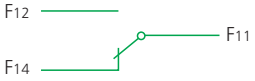
Wiring diagram of shunt release

11.3 Auxiliary contact and alarm contact

Rated parameter of auxiliary contact

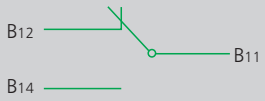
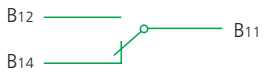
Frame size	Conventional heating current Ith (A)	Rated current Ie (A) at AC 400 V	Rated current Ie (A) at DC 230 V
Inm≤225A	3	0.26	0.14
Inm≥400A	6	3	0.2

a. Auxiliary contact

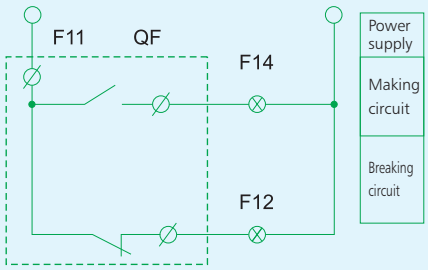
Circuit breaker is at breaking status	
Circuit breaker is at making status	

b. Alarm contact

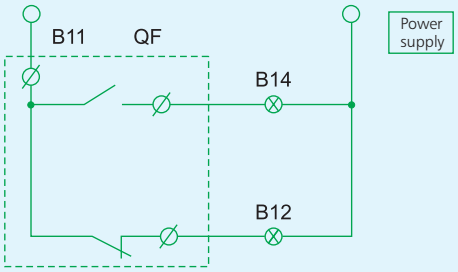
When circuit breaker normally makes and breaks, alarm contact doesn't operate. After free release (or release due to failure) alarm contact operate; and after the circuit breaker operates again,alarm contact returns to the original status.

Circuit breaker is at "breaking" or "making" status	
Circuit breaker is at free release (or alarming) status	

Wiring diagram of NM1 auxiliary contact



Wiring diagram of NM1 alarm contact



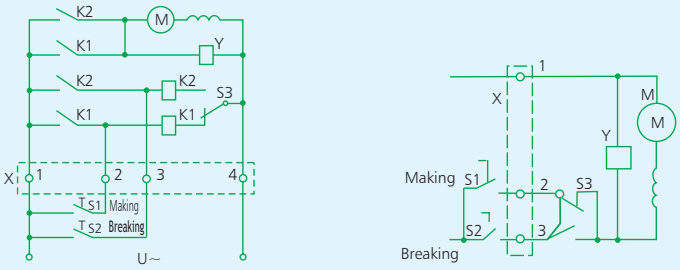
External accessories

11.4 Motor-driven operation mechanism

Items \ Model	NM1-63 NM1-100, NM1-225	NM1-400 NM1-630, NM1-800, NM1-1250
Structure form	Electromagnet	Motor
Code of AC voltage	A2, A4	A2, A4
Code of DC voltage	D1, D2	D1, D2

Note: A2 220V/230V/240V, A4:380V/400V/415V; D1: DC24V, D2:DC110V.

NM1-400, 630, 800, 1250 making and breaking diagram of motor-driven operation mechanism(AC)



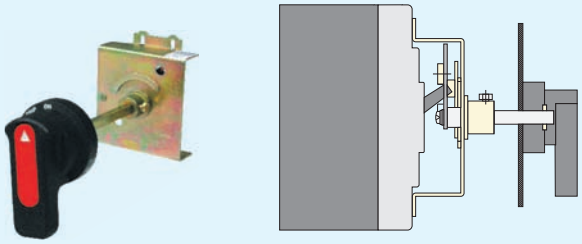
With self-locking relay

Without self-locking relay

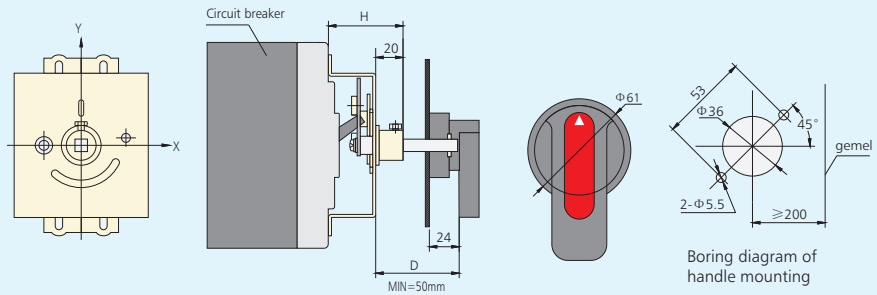
Specification AC 50Hz 230V or 400V

Rotary manual operation mechanism

Making/breaking wiring diagram of manual operation mechanism



Mounting dimensions of manual operation mechanism

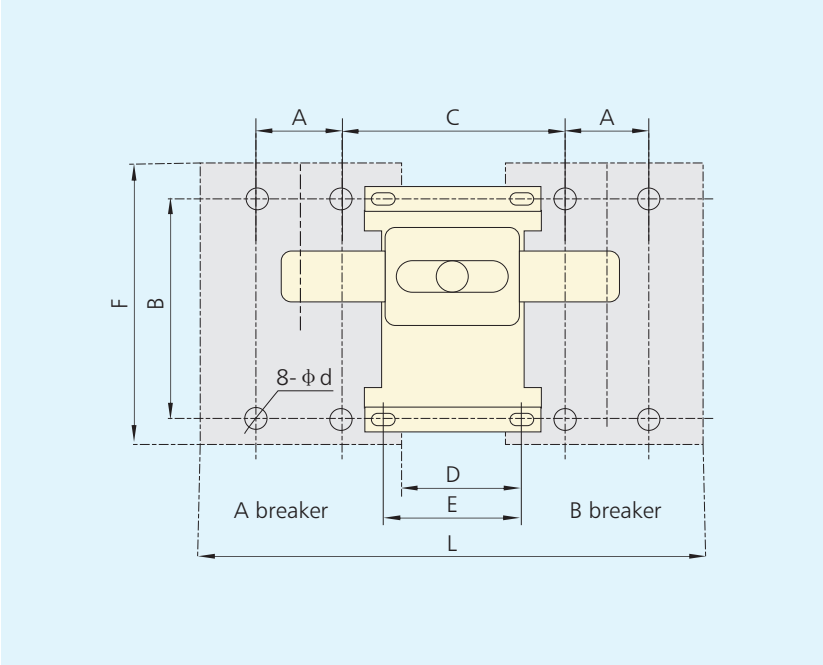


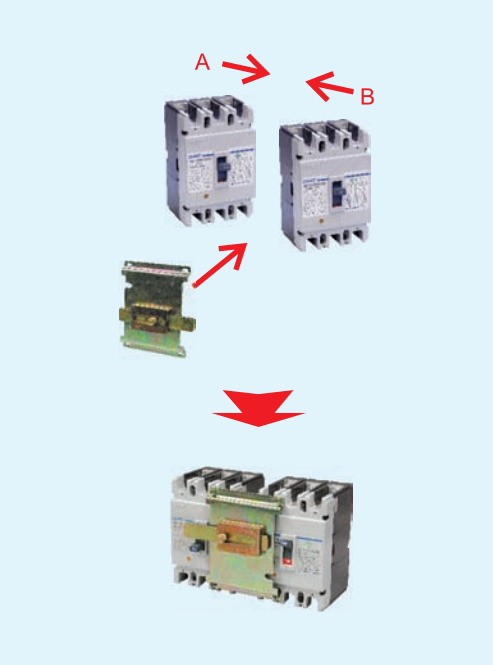
Boring diagram of handle mounting

(mm)

Model	NM1-63	NM1-100	NM1-225	NM1-400S	NM1-400H NM1-400R	NM1-630S	NM1-630R NM1-800H NM1-800R
Mounting size	49	54	54	84	76	83	76
Y value of the handle related to the center of the breaker	0	0	0	0	-10	0	-20

Mounting and boring dimensions





Note:

1. * stands for length of boring.
2. install the breaker on the frame first,then install the mechanical interlock on the breaker .

(mm)

Model	A	B	C	D	E	F	L	Φ d
NM1-63								
NM1-100	30	129	90	30	90	155	210	4.5×6*
NM1-225	35	126	100	30	100	165	240	5.5
NM1-400	44	194	172	20	62	257	330	7
NM1-630	58	200	175	48	62	270	412	7
NM1-800								

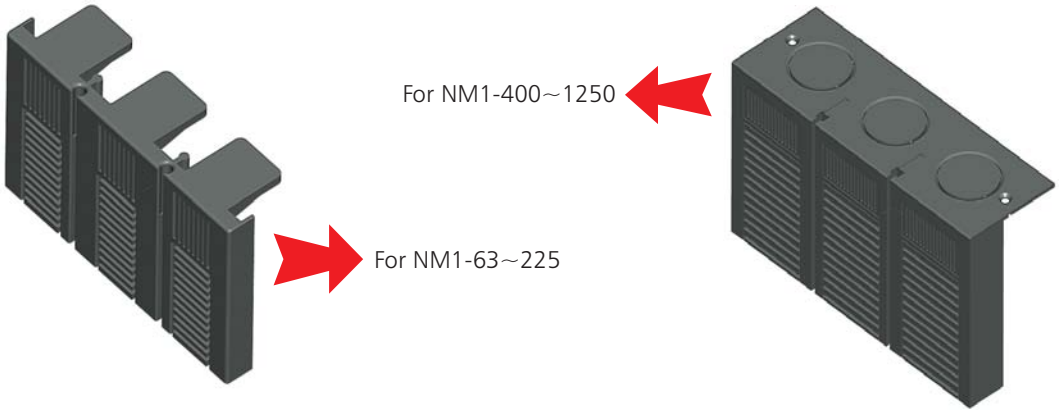
12. Complementary Technical Information

12.1 The customized products of NM1-225, of which the capacity can be enriched to 250A is available.

12.2 NM1-1250 products are equipped with connection plate when they are sold; if you need connection plate for products of other model, the connection plate should be ordered separately.

12.3 Only H type breaker is applicable to manufacture NM1 series switch disconnector.

12.4 Terminal covers of the whole series NM1 products are available, and the protection degree can be up to IP40 after the breaker is equipped with terminal cover.



12.5 Safe distance between other electric apparatuses for mounting

(mm)

Distance(min) \ Type	NM1-63	NM1-100	NM1-225	NM1-400	NM1-630	NM1-800	NM1-1250
Line side	50	50	50	100	100	100	100
Load side	20	20	20	20	20	20	20
Right side	25	25	25	25	25	25	25
Left side	25	25	25	25	25	25	25

12.6 Tightening torque table

Wire size(copper)		Rated current (A)	Tightening torque(N • m)	
AWG/MCM	mm^2		Front connection plate	Boxing terminal
16-6	1.5-16	10≤In≤63	5	3
4-3	25-35	63<In≤100	10	8
2-4/0	50-95	100<In≤225	14	10
300-500	120-240	225<In≤400	18	16
250×2	150×2	400<In≤500	22	18
350×2	185×2	500<In≤630	26	20
500×2	240×2	630<In≤800	28	-
350×4	185×4	800<In≤1250	30	-

12.7 Technical Data of NM1 series

Frame current (A)	Model	Number of poles	Ui (V)	Icu/Ics(kA)				
				220 240V	380 415V	440V	480 500V	660 690V
63	NM1-63S	3	500V	20/10	15/7.5	10/5	-	-
	NM1-63H	3	500V	42/21	35/17.5	20/10	-	-
	NM1-63H	4	500V	42/21	35/17.5	20/10	-	-
100	NM1-100S	3	800V	42/21	25/12.5	20/10	10/5	3/1.5
	NM1-100H	2	800V	65/32.5	50/25	42/21	25/12.5	8/4
	NM1-100H	3	800V	65/32.5	50/25	42/21	25/12.5	8/4
	NM1-100H	4	800V	65/32.5	50/25	42/21	25/12.5	8/4
	NM1-100R	3	800V	85/42.5	65/32.5	55/27.5	35/17.5	10/5
225	NM1-225S	3	800V	42/21	25/12.5	20/10	10/5	5/2.5
	NM1-225H	2	800V	65/32.5	50/25	42/21	25/12.5	8/4
	NM1-225H	3	800V	65/32.5	50/25	42/21	25/12.5	8/4
	NM1-225H	4	800V	65/32.5	50/25	42/21	25/12.5	8/4
	NM1-225R	3	800V	85/42.5	65/32.5	55/27.5	35/17.5	10/5
400	NM1-400S	3	800V	50/25	35/17.5	30/15	15/7.5	10/5
	NM1-400S	4	800V	50/25	35/17.5	30/15	15/7.5	10/5
	NM1-400H	3	800V	85/42.5	50/25	42/21	25/12.5	12/6
	NM1-400R	3	800V	100/50	70/35	65/32.5	42/21	15/7.5
630	NM1-630S	3	800V	50/25	35/17.5	30/15	15/7.5	12/6
	NM1-630S	4	800V	50/25	35/17.5	30/15	15/7.5	12/6
	NM1-630H	3	800V	85/42.5	50/25	42/21	25/12.5	13/6.5
	NM1-630R	3	800V	100/50	70/35	65/32.5	40/20	20/10
800	NM1-800H	3	800V	85/42.5	60/30	55/27.5	30/15	20/10
	NM1-800R	3	800V	100/50	70/35	65/32.5	40/20	20/10
1250	NM1-1250H	3	800V	85/42.5	65/32.5	55/27.5	30/15	15/7.5

Frame current (A)	Model	Number of poles	Ui (V)	Icu/Icm(kA)				
				220 240V	380 415V	440V	480 500V	660 690V
63	NM1-63S	3	500V	20/40	15/30	10/17		
	NM1-63H	3	500V	42/88.2	35/73.5	20/40		
	NM1-63H	4	500V	42/88.2	35/73.5	20/40		
100	NM1-100S	3	800V	42/88.2	25/52.5	20/40		
	NM1-100H	2	800V	65/143	50/105	42/88.2		
	NM1-100H	3	800V	65/143	50/105	42/88.2		
	NM1-100H	4	800V	65/143	50/105	42/88.2		
	NM1-100R	3	800V	85/187	65/143	55/121		
225	NM1-225S	3	800V	42/88.2	25/52.5	20/40		
	NM1-225H	2	800V	65/143	50/105	42/88.2		
	NM1-225H	3	800V	65/143	50/105	42/88.2		
	NM1-225H	4	800V	65/143	50/105	42/88.2		
	NM1-225R	3	800V	85/187	65/143	55/121		
400	NM1-400S	3	800V	50/105	35/73.5	30/63		
	NM1-400S	4	800V	50/105	35/73.5	30/63		
	NM1-400H	3	800V	85/187	50/105	42/88.2		
	NM1-400R	3	800V	100/220	70/154	65/143		
630	NM1-630S	3	800V	50/105	35/73.5	30/63		
	NM1-630S	4	800V	50/105	35/73.5	30/63		
	NM1-630H	3	800V	85/187	50/105	42/88.2		
	NM1-630R	3	800V	100/220	70/154	65/143		
800	NM1-800H	3	800V	85/187	60/132	55/121		
	NM1-800R	3	800V	100/220	70/154	65/143		
1250	NM1-1250H	3	800V	85/187	65/143	55/121		

Note: Parameters in black are only for your reference.

12.8 Cascading
12.8.1 Cascading (220/230/240V)
Upstream: NM1-63～1250
Downstream: DZ47, DZ158, DZ267, NB1, NBH8, NM1-63～1250

Upstream → Breaking capacity (kA RMS)	NM1-63S 20	NM1-63H 42	NM1-100S 25	NM1-100H 50	NM1-100R 65	NM1-225S 25	NM1-225H 50	
Downstream ↓	Breaking capacity (kA RMS)							
DZ267	20	40	20	35	50	20	25	
DZ47	20	40	20	35	50	20	25	
NBH8	20	40	20	35	50	20	25	
NB1(Icn=6000A)	20	42	25	35	50	25	35	
NB1(Icn=10000A)	20	42	25	40	50	25	35	
DZ158			25	40	50	25	40	
NM1-63S		42	25	50	65	25	50	
NM1-63H					65			
NM1-100S				50	65		50	
NM1-100H					65			
NM1-225S							50	
NM1-225H								
NM1-400S								
NM1-400H								
NM1-630S								
NM1-630H								
NM1-800H								
NM1-1250H								

NM1-225R 65	NM1-400S 35	NM1-400H 50	NM1-400R 70	NM1-630S 35	NM1-630H 50	NM1-630R 70	NM1-800H 60	NM1-800R 70	NM1-1250H 65
30									
30									
30									
35									
40									
50	30	40	50						
65									
65									
65		50	70		50	70	60	70	65
65			70			70		70	
65		50	70		50	70	60	70	65
65			70			70		70	
		50	70		50	70	60	70	65
			70			70		70	
					50	70			
						70			
								70	

12.8.2 Cascading (380/400/415V)
Upstream: NM1-63～1250
Downstream: DZ47, DZ158, DZ267, NB1, NBH8, NM1-63～1250

Upstream → Breaking capacity (kA RMS)	NM1-63S 15	NM1-63H 35	NM1-100S 25	NM1-100H 50	NM1-100R 65	NM1-225S 25	NM1-225H 50
Downstream ↓	Breaking capacity (kA RMS)						
DZ47	10	15	10	15	15	10	15
NB1(Icn=6000A)	15	20	15	20	20	15	20
NB1(Icn=10000A)	15	20	20	25	25	20	25
DZ158			20	25	35	20	25
NM1-63S		35	25	50	65	25	50
NM1-63H					65		
NM1-100S				50	65		50
NM1-100H					65		
NM1-225S							50
NM1-225H							
NM1-400S							
NM1-400H							
NM1-630S							
NM1-630H							
NM1-800H							
NM1-1250H							

NM1-225R 65	NM1-400S 35	NM1-400H 50	NM1-400R 70	NM1-630S 35	NM1-630H 50	NM1-630R 70	NM1-800H 60	NM1-800R 70	NM1-1250H 65
15									
20									
25									
35	20	25	35						
65									
65									
65		50	70		50	70	60	70	65
65			70			70		70	
65		50	70		50	70	60	70	65
65			70			70		70	
		50	70		50	70	60	70	65
			70			70		70	
					50	70			
						70			
								70	