

The Next Reliable Choice

Moulded Case Circuit Breaker



Detailed division of frame size, with more options

Select the most suitable frame size, increase the product cost performance and reduce costs of using.



The brand-new electronic release, provide more accurate circuit protection

The all-new electronic release can deal with the hidden fault more accurately, with a more convenient parameters setting.



Dual insulation design, for a more convenient maintenance

Enhance the insulating capacity of the product, allowing the accessories installation, which make the maintenance more safe and efficient.



With a USB port for better human-machine interaction

Connected with PC devices through the USB port, lets you manage functions such as data reading, parameter setting, on-line detection and failure recording.



Absolute adaptability, with steady and reliable operation in extreme conditions

-35°C/+70°C operating temperature range. Meets several applications requirements.

Moulded Case Circuit Breaker

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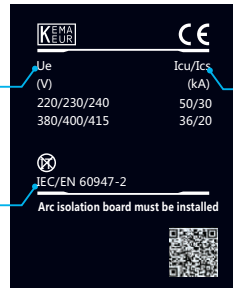
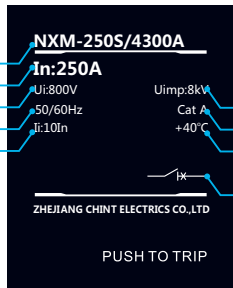
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NXM-250S/4300A



NXMS-250H/3300



NXM Nameplate of thermomagnetic stationary molded case circuit breaker

NXM series moulded case circuit breaker

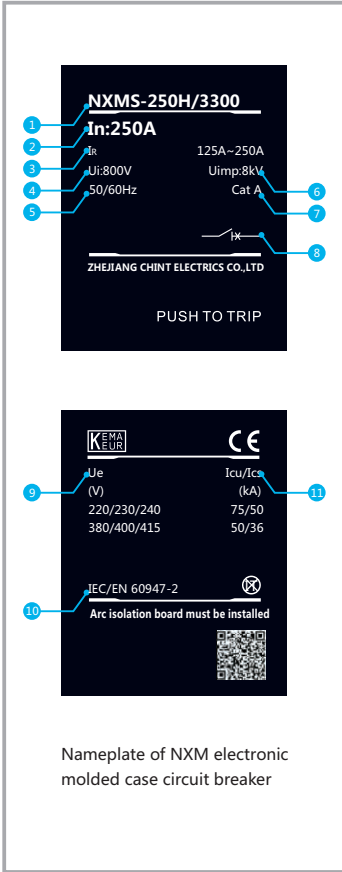
Breaker

The moulded case circuit breaker will provide protection for the circuit and equipment in case of overload, short circuit and under voltage condition occurred in the power distribution circuit. Besides, it can also provide protection of overload, short circuit and under voltage for the non-frequent start of motor

- Frame size:
 NXM series moulded case circuit breaker: 63A, 125A, 160A, 250A, 400A, 630A, 800A, 1000A, 1250A, 1600A
 NXMS series electronic breaker: 160A, 250A, 400A, 630A, 1000A, 1250A, 1600A
- Rated operational voltage: Ue : 220V/230V/240V, 380V/400V/415V, 500V , 690V
- Breaking capacity code: E, S, F, H
- Number of poles: 2P, 3P, 4P
- Release type:thermal magnetic fixed type; magnetic fixed type; electronic type.
- Installation method: Fixed type; plug-in type

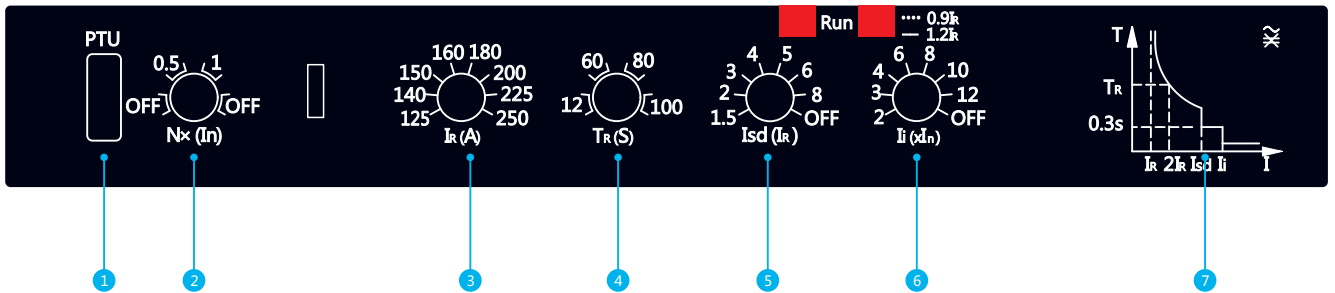
Nameplate interpretation

- 1 Product type: Frame size; breaking capacity; poles number
- 2 In: Rated operational current
- 3 Ui: Rated insulation voltage
- 4 Frequency of A.C.
- 5 Ii: 10In Multiple of current of transient behavior
- 6 Uimp: Rated impulsive withstand voltage
- 7 Cat A: Utilization category of breaker
- 8 +40°C: Ambient temperature
- 9 Electrical symbol for circuit breaker with isolating function
- 10 Ue: Rated operational voltage
- 11 The product is in conformity with standard IEC/EN 60947.2
- 12 Icu/Ics: Ultimate short circuit breaking capacity/Service short circuit breaking capacity

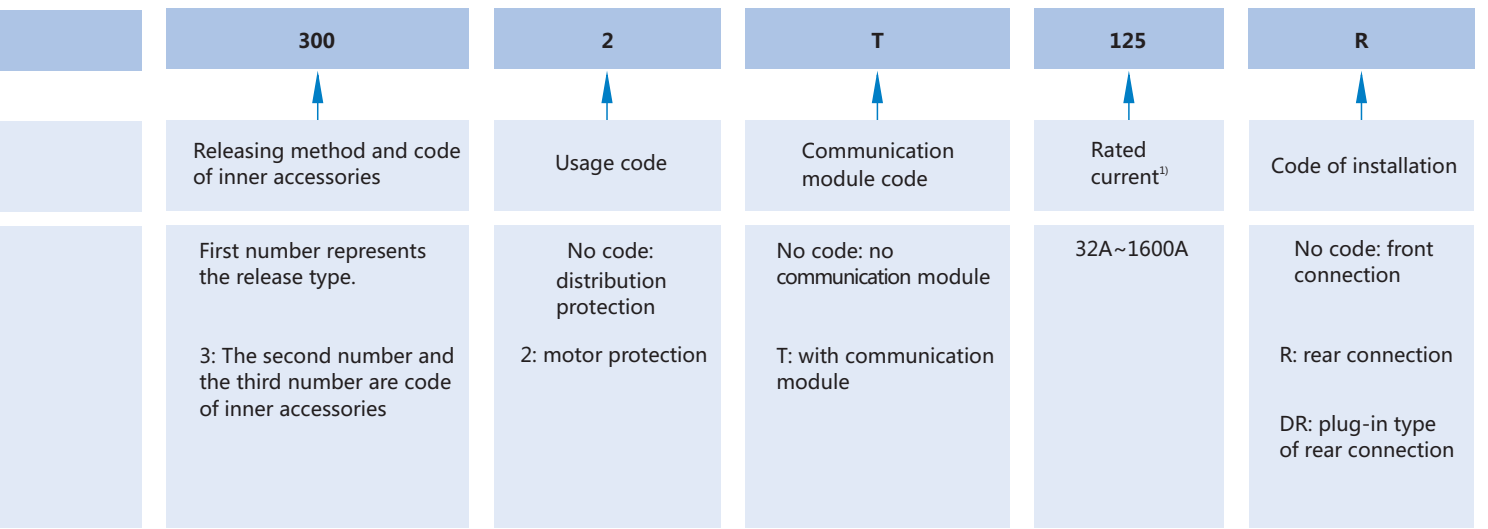


- 1 Product type: Frame size; breaking capacity; poles number
- 2 In: Rated operational current
- 3 I_R : Long-time-delay setting current range
- 4 Ui: Rated insulation voltage
- 5 Frequency of A.C.
- 6 Uimp: Rated impulsive withstand voltage
- 7 Cat A: Utilization category of breaker
- 8 Electrical symbol for circuit breaker with isolating function
- 9 Ue: Rated operational voltage
- 10 The product is in conformity with standard IEC/EN 60947.2
- 11 Icu/Ics: Ultimate short circuit breaking capacity/Service short circuit breaking capacity

Electronic release



- 1 PTU interface
- 2 Neutral pole protection current setting, with 2 steps of current that is adjustable and can be turned off (OFF)
- 3 Rated current setting with 8 steps
- 4 Long-time-delay (S) setting with 4 steps
- 5 Short-time-delay current I_{sd} setting with 7 steps that is adjustable and can be turned off (OFF)
- 6 Instantaneous action current I_i setting with 7 steps and that can be turned off (OFF)
- 7 Current-time protection curve



NXMS series electronic moulded case circuit breaker, code of inner accessories

Accessories name	Accessories code		NXMS-160F/H		NXMS-250F/H	
	Only magnetic	Thermal magnetic release	3P	4P	3P	4P
No inner accessories	200	300				
Alarm contact	208	308				
Shunt release	210	310				
Auxiliary contact (1NO1NC)	220	320				
Auxiliary contact (2NO2NC)						
Under voltage release	230	330				
Shunt release, auxiliary contact (1NO1NC)	240	340				
Shunt release, auxiliary contact (2NO2NC)						
Under voltage release shunt release	250	350				
Two groups of auxiliary contact (2NO2NC)	260	360				
Under voltage release, auxiliary contact (1NO1NC)	270	370				
Under voltage release, auxiliary contact (2NO2NC)						
Shunt release, alarm contact	218	318				
Auxiliary contact (1 NO1NC), alarm contact	228	328				
Auxiliary contact (2 NO2NC), alarm contact						
Under voltage release, alarm contact	238	338				
Shunt release, auxiliary contact (1NO1NC), alarm contact	248	348				
Two groups of auxiliary contact (2NO2NC), alarm contact	268	368				
Under voltage release, auxiliary contact (1NO1NC), alarm contact	278	378				



	NXMS-400S/F/H NXMS-630S/F/H		NXMS-1000S/H		NXMS-1250S/H		NXMS-1600S/H	
	3P	4P	3P	4P	3P	4P	3P	4P

Technical Parameters

NXMS series electronic moulded case circuit breaker

Frame size Inm(A)		160		250		400		
Rated current In(A),40°C		32, 63, 125, 160		250		400		
Rated insulation voltage Ui(V)		800		800		1000		
Rated impulse withstand voltage Uimp(kV)		8		8		12		
Rated operational voltage Ue(V),AC 50/60Hz		220/230/240, 380/400/415, 690*		220/230/240, 380/400/415, 690*		220/230/240, 380/400/415, 690*		
Breaking capacity code		F	H	F	H	S	F	H
Number of poles	3P	■	■	■	■	■	■	■
	4P	■	■	■	■	■	■	■
Rated ultimate short circuit breaking capacity Icu(kA)	AC220/230/240	50	75	50	75	75	75	100
	AC380/400/415V	36	50	36	50	50	50	70
	AC690V	10	10	10	10	10	10	15
Rated service short circuit breaking capacity Ics(kA)	AC220/230/240	50	50	50	50	50	75	75
	AC380/400/415V	36	36	36	36	36	50	50
	AC690V	5	5	5	5	7.5	7.5	7.5
Rated shor-time withstand current Icw(kA),1s	AC400/415V	-		-		8		
In conformity with standard		IEC/EN 60947-2						
Utilization category		A		A		B		
Isolation function		■		■		■		
Ambient temperature		-25°C~+70°C						
Arcing distance		≤50		≤50		≤100		
Mechanical life (times)	Without maintenance	20000		20000		10000		
	With maintenance	40000		40000		20000		
Electrical life (times)	AC415V,In	10000		10000		8000		
Electric release (times)	Distribution protection	■		■		■		
	Motor protection	■		■		■		
Accessories	Auxiliary contact	■		■		■		
	Alarm contact	■		■		■		
	Auxiliary contact, alarm contact	■		■		■		
	Shunt release	■		■		■		
	Under voltage release	■		■		■		
	Communication module	■		■		■		
	Maintenance tester	■		■		■		
	Setting and monitoring software	■		■		■		
	Remote indication contact	■		■		■		
	Manual operational mechanism	■		■		■		
	Motor-driven mechanism	■		■		■		
	Rear connection	■		■		■		
	Plug-in type	■		■		■		
	Extending terminal bonding bar	■		■		■		
	Temperature monitoring module	■		■		■		
Interphase barrier	■		■		■			
Dimension and size (mm) Width x height x depth	Width (3P/4P)	90/120		105/140		140/185		
	Height	155		165		257		
	Depth (S/H type)	91/91		102		108/108		

*690V only has CE certification



630			1000		1250		1600	
630			800, 1000		1250		1600	
1000			1000		1000		1000	
12			12		12		12	
220/230/240, 380/400/415, 690*			220/230/240, 380/400/415, 690*		220/230/240, 380/400/415, 690*		220/230/240, 380/400/415, 690*	
S	F	H	S	H	S	H	S	H
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
75	75	100	75	100	75	100	75	100
50	50	70	50	70	50	70	50	70
10	10	15	15	20	-	30	-	30
50	75	75	50	75	50	75	50	75
36	50	50	36	50	36	50	36	50
7.5	7.5	7.5	12.5	15	-	20	-	20
8			12		19.2		19.2	
B			B		B		B	
■			■		■		■	
≤100			≤100		≤100		≤100	
10000			5000		5000		5000	
20000			10000		10000		10000	
8000			2500		2500		2500	
■	■	■	■	■	■	■	■	■
■	■	■	-	-	-	-	-	-
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	-	-	-	-
■	■	■	■	■	-	-	-	-
■	■	■	■	■	■	■	■	■
-	-	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
140/185			210/280		210/280		210/280	
257			280		370		370	
108/108			117.5/117.5		152/152		157/157	

*690V only has CE certification

Protection Feature

Distribution protection—Electronic release

Electronic release	Frame size I_{nm} (A)	Rated current I_n (A)	Setting of overcurrent protection I_r (A)	Release feature/time	
Overload long-time-delay protection	160	32	16-18-20-22-25-28-30-32	$I^2t = \text{constant}$ $1.05I_r$, no action within 2h $1.3I_r$, action with 1h $2I_r$, $t_r = (12-60-80-100)s$, $I_{nm} < 400A$ $2I_r$, $t_r = (12-60-100-150)s$, $I_{nm} \geq 400A$	
		63	32-36-40-45-50-56-60-63		
		125	63-70-75-80-90-100-110-125		
		160	80-90-100-110-125-140-150-160		
	250	250	125-140-150-160-180-200-225-250		
	400	400	200-225-250-280-300-315-350-400		
	630	630	400-450-480-500-530-560-600-630		
	1000	800	630-660-680-700-720-750-780-800		
		1000	630-680-720-780-820-900-950-1000		
1250	1250	630-700-800-900-1000-1100-1200-1250			
1600	1600	800-900-1000-1100-1250-1400-1500-1600			
Action allowance				±10%	
Short circuit short-time-delay protection	All series	32~1600	$I_{sd} = (1.5-2-3-4-5-6-8)I_r + \text{OFF}$	$t_{sd} = 0.3, \pm 0.06s$	
Action allowance					±15%
Instantaneous protection	160~1600	32~1600	$I_i = (2-3-4-6-8-10-12)I_r + \text{OFF}$		
Action allowance				±15%	
Neutral pole protection (code of four pole C/D)	All series	32~1600	$I_{RN} = (0.5, 1)I_n + \text{OFF}$, Adjustable	Instantaneous action	
Indication of overload	All series	32~1600	$I_{R0} = 1.2I_r$		



MD-M2 electric operational mechanism



Schematic diagram of assembly of motor-driven mechanism with the body

External Accessories

MD motor-driven mechanism

Function: it is applicable for switching circuit breaker on and off and retrip remotely, as well as automation application.

Model description

MD - □□□□

Applicable product: Thermal-magnetic (omit), Electronic type (E), residual current type (LE).

Product breaking capacity: General (omit), S,H.

Applicable voltage code (see table2, only A1, A2 are applicable)

Frame size code (see table1)

Name code of motor-driven mechanism

For example: motor driven code of 63/125 frame moulded case circuit breaker 400V: MD-M1A2

Table1 frame size code

Frame size	63/125	160	250/320	400/630	800	1000	1250/1600
Code	M1	M2	M3	M4	M5	M6	M7

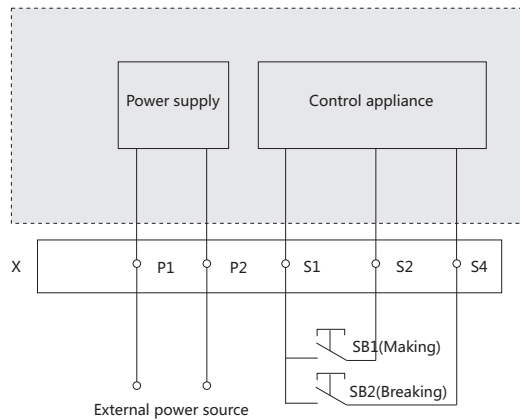
Table2 Applicable voltage code

Voltage	AC220V/230V/240V	AC380V/400V/415V	DC24V	DC110V	DC220V
Code	A1	A2	D1	D2	D3

Electrical characteristics

Category	Model	63/125/250/320 frame	All series
Structural style		Electromagnet	DC-AC
Voltage specification		AC230V, 400V	AC110V, 230V, 400V, AC220V, 230V, 240V, AC380V, 400V, 415V, DC24V, 110V, 220V, DC110V, 220V
Rated frequency		50Hz	50/60 Hz

Wiring diagram

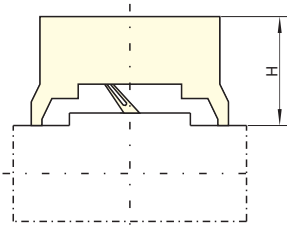


Description: SB1, SB2 is separately the on and off button;

P1, P2 are the external power line terminal. P1 will be connected to "+", and P2 will be connected to "-" if the external power source is DC.

Motor-driven mechanism

Installation sketch of electric operational mechanism



Frame size	63A	160A	250A	400A	800A	1000A	1250/1600A
	125A		320A	630A			
Installation size H(mm)	93	97	97.5	154	153	154.5	156



External Accessories

ERH manual operational mechanism

Function: It realizes switching on, off and restripping via rotary handle according to human body mechanics with unique design and transmission device.

Model description

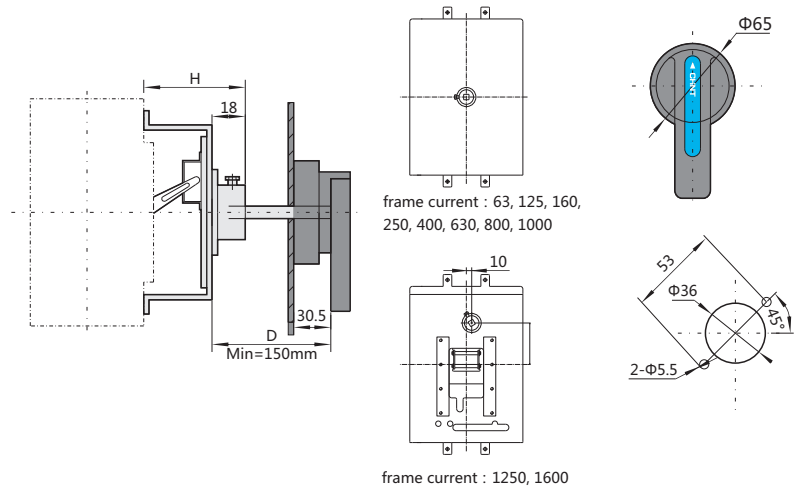
ERH - □□
 Category code of adaptive products: thermal magnetic type;
 electronic type (no code)
 residual current (code LE)
 Frame size (table 1)
 Name code of manual operational mechanism

For example: manual operational mechanism code of 63/125 frame residual current operating: ERH-M1LE

Table1 frame size code

Frame size	63/125	160	250/320	400/630	800	1000	1250/1600
Code	M1	M2	M3	M4	M5	M6	M7

Installation diagram of manual operational mechanism



ERH-M6



Scheme diagram of assembly of manual operational mechanism with the body



PIA-M2

Frame size	63A	160A	250A	400A	800A	1000A	1250/1600A
	125A		320A	630A			
Installation sizes(mm)	53.5	61.5	63.5	98	97	97	68.5



Complementary Technical Data

Altitude reducing capacity and correction coefficient table

It has no impact on the breaker feature where the altitude equals to 2000 m or below. The breaker electrical feature shall be corrected according to the following table.

Altitude (m)	2000	3000	4000	5000
Correction coefficient of operating current	1In	0.94In	0.88In	0.85In
Maximum operational voltage (V)	690	600	500	440
Insulation voltage (V)	1000	800	700	600
Power frequency withstand voltage (V)	2800	1500	1000	800

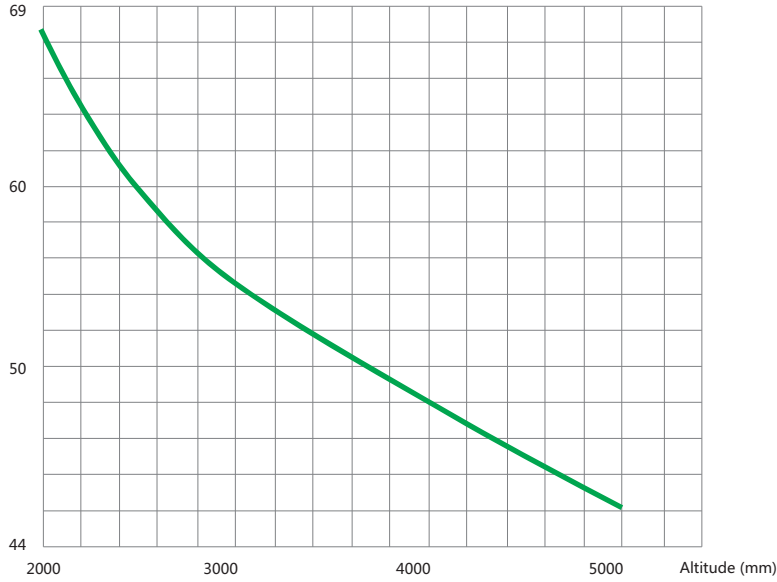
Plug-in and rear connection current derating table

Frame size	Rated current(A)	Plug-in derating current(A)	Note
630	500	450	
	630	520	
800	700	650	
	800	720	
1000	900	850	
	1000	920	

Note: There is no need of current derating as no specification in the table

Altitude derating curve

Maximum operation



Electronic type derating coefficient table

Frame size	Rated current	Long-time delay current setting	-25°C	-20°C	-15°C	-10°C	-5°C	-0°C	Rated current	40°C	45°C	50°C	55°C	60°C	65°C	70°C
NXMS-160	32A, 63A, 125A, 160A	$I_R < 0.65I_n$	$1.2I_R$	$1.2I_R$	$1.1I_R$	$1.1I_R$	$1.05I_R$	$1.05I_R$	32A, 63A, 125A	1.0In		0.9In	0.85In	0.8In	0.8In	
		$I_R > 0.65I_n$	$1.0I_R$						160A	1.0In	0.9In	0.85In	0.8In	0.7In	0.7In	
NXMS-250	250A	$I_R < 0.58I_n$	$1.15I_R$	$1.15I_R$	$1.15I_R$	$1.05I_R$	$1.05I_R$	$1.05I_R$	250A	1.0In		0.9In	0.85In	0.8In	0.8In	
		$I_R > 0.58I_n$	$1.0I_R$							1.0In	0.9In	0.85In	0.8In	0.8In		
NXMS-630	400A, 630A	ALL	$1.0I_R$						400A	1.0In		0.9In	0.85In	0.8In	0.8In	
									630A	1.0In	0.9In	0.85In	0.8In	0.7In	0.7In	
NXMS-1000	800A, 1000A	ALL	$1.0I_R$						800A	1.0In		0.9In	0.85In	0.8In	0.8In	

Power loss table

Product model	Making current(A)	Single pole resistance (mΩ)	3/4pole total power loss		
			Front connection	Rear connection	Plug-in rear connection
NXM-63	63	0.75	24	27	28
NXM-125	125	0.72	28	31	32
NXM-160	160	0.4	60	87	89
NXM-250	250	0.2	63	90	90
NXM-400	400	0.15	68	72	100
NXM-630	630	0.14	180	190	200
NXM-800	800	0.08	200	230	290
NXM-1000	1000	0.06	250	280	300
NXM-1600	1600	0.027	280	-	-
NXMS-160	160	0.2	40	50	62
NXMS-250	250	0.18	50	75	86
NXMS-400	400	0.1	58	87	90
NXMS-630	630	0.08	110	120	130
NXMS-1000	1000	0.05	140	155	167
NXMS-1600	1600	0.02	250	-	-
NXMLE-160	160	0.73	60	87	89
NXMLE-250	250	0.27	63	90	90
NXMLE-400	400	0.11	68	72	100
NXMLE-630	630	0.09	180	190	200
NXHM-63	63	0.4	28	31	35
NXHM-125	125	0.6	60	87	87
NXHM-160	160	0.2	40	50	62
NXHM-250	250	0.18	50	75	86
NXHM-400	400	0.1	58	87	90
NXHM-630	630	0.08	110	120	130
NXHM-800	800	0.05	200	230	290
NXHM-1000	1000	0.02	140	155	167

Parameter table of connecting cable/copper bar

The reference section of connecting cable/copper bar with different rated current is as follows.

Rated current (A)	Section of wire (mm ²)
10	1.5
16, 20	2.5
25	4.0
32	6.0
40, 50	10
63	16
80	25
100	35
125, 140	50
160	70
180, 200, 225	95
250	120
280, 315, 320, 350	185
400	240



Rated current (A)	Cable		Copper bar	
	Section (mm ²)	Quantity	Width x thickness (mm)	Quantity
500	150	2	30×5	2
630	185	2	40×5	2
700, 800	240	2	50×5	2
			50×10	1
900, 1000	-	-	50×5	3
			63×10	1
1250	-	-	50×5	3
			40×10	2
1600	-	-	60×5	4
			60×10	2

The above reference section is the reference value under 40 degrees operating environmental temperature.

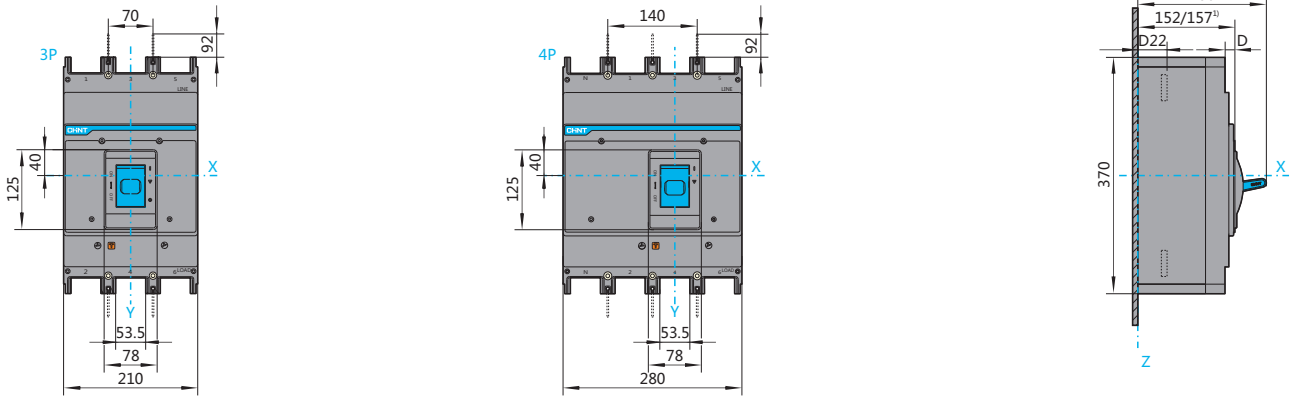
The recommended value of tightening torque of different housing current connecting cable/copper bar is as follows:

Rated current (A)	63A/125A	160A	250A/320A	400A/630A	800A	1000A	1250A/1600A
Torque (N m) ¹⁾	3/6 ⁴⁾	10	12	30	30	40	30
Torque (N m) ²⁾	3/6 ⁴⁾	10	12	30	30	40	30
Torque (N m) ³⁾	3/6 ⁴⁾	10	12	30	30	40	30

- ¹⁾ Tighten the torque of busbar (or extension busbar/connection lug) in case of connecting with the body directly.
- ²⁾ Tighten the torque of connecting terminal behind the stationary breaker/tighten the torque of connecting terminal of plug in breaker.
- ³⁾ Tighten the torque of extension busbar of terminal on the plug-in pedestal.
- ⁴⁾ Value of torque is 3 for 10A~63A of frame current 63 and 125A breaker, value of torque is 6 for 70A~125A for frame current 125A breaker.

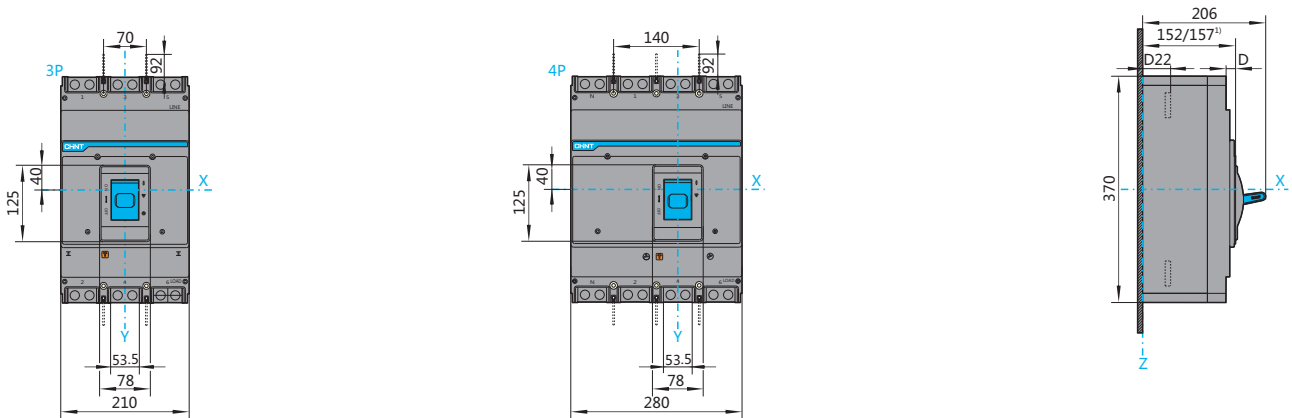
NXM-1250S/H,1600S/H

Front connection, dimension (mm)



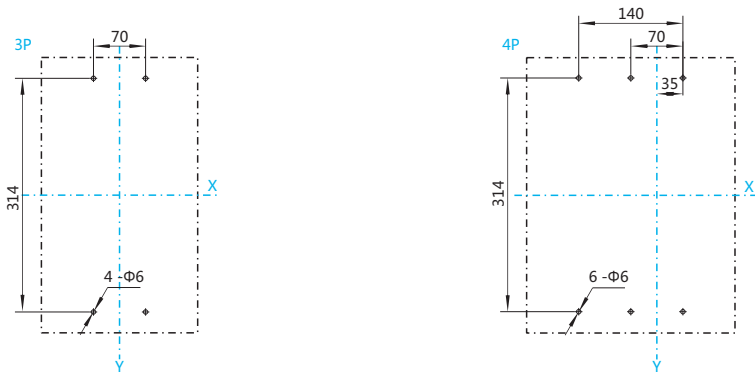
NXMS-1250S/H,1600S/H

Front connection, dimension (mm)



NXM-1250S/H,1600S/H , NXMS-1250S/H,1600S/H

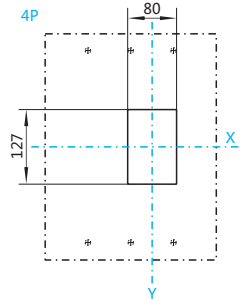
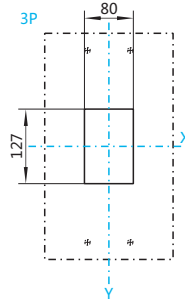
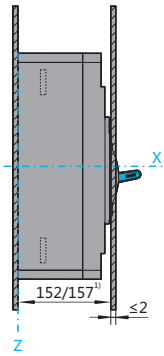
Installation size of baseplate (mm)



Specification and model	D22	D	Remark
NXM-1250S/H,1600S/H	55	15.5	1000A
	57		1250A
	65		1600A
NXMS-1250S/H,1600S/H	57	15.5	1250A
	65		1600A

NXM-1250S/H, 1600S/H, NXMS-1250S/H, 1600S/H

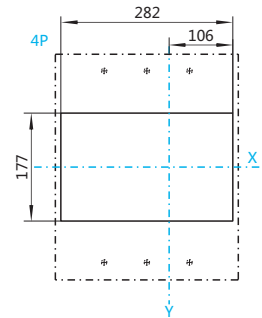
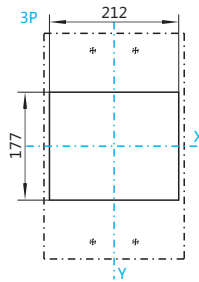
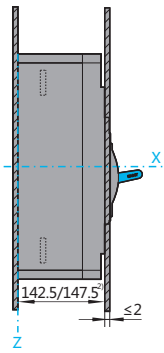
Cabinet gate hole (small) size (mm)



¹⁾152 is for frame current 1250A breaker;
157 is for frame current 1600A breaker

NXM-1600S/H, NXMS-1600S/H/, NXHM-1600

Cabinet gate hole (large) size (mm)



²⁾152 is for frame current 1250A breaker;
157 is for frame current 1600A breaker



NXMS series electronic moulded case circuit breaker

Tripping curve of distribution protection

