

GM1 Moulded Case Circuit Breaker

General

- Certificates: KAMA, RCC, PCT, ESC, UKRTEST, KS;
- Electric ratings: AC 690V, 50/60HZ, 10-1250A;
- Mounting mode: Vertical and horizontal;
- Standard: IEC/EN60947-2
- For detailed certificate, please refer to P116

Type designation

G M 1 - □ □ □ / □ □ □ □

1 2 3 4 5 6 7 8 9 10

1. Company code
2. MCCB code
3. Design sequence number
4. Frame size rated current
5. Code of breaking capacity: S-Standard type; H-Higher type; R-Current limiting type
6. Operation mode: Blank: Direct operation with handle; P: Motor-driven operation; Z: Operation with rotary handle
7. Number of poles
8. Release type and accessory code (please refer to table on page 111)
9. Application: Blank: For power distribution; 2: For motor protection
10. Type of N-pole for 4-P breaker*

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;

Classification

According to breaking capacity of breaker:

Standard type (S)



Higher type (H)



Current-limiting type (R)



According to wiring mode:

Front connection



Rear connection



Plug-in



According to operation mode:

Direct operation with handle



Operation with rotary handle



Motor-driven operation



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According to number of poles:

2P



3P



4P



Operation conditions

- Temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$; the average value within 24h shall not exceed $+35^{\circ}\text{C}$. (please refer to coefficients on P77 for temperature compensation correction); for the circuit breaker with thermo-magnetic release, $+40^{\circ}\text{C}$ is set to be the standard temperature for ratings. Temperature not between $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$, please contact us for temperature compensation correction;
- Altitude: not exceed 2000m (please contact us for reduction coefficient if altitude at the mounted site beyond 2000m)
- Pollution grade: Grade 3;
- Air conditions:
At mounting site, relative humidity not exceed 50% at the max temperature of $+40^{\circ}\text{C}$, higher relative humidity is allowable under lower temperature. For example, RH could be 90% at $+20^{\circ}\text{C}$, special measures should be taken to occurrence of dews.

Technical data

GM1-63



Frame size current	63		
Rated current(A)	10,16,20,25,32,40,50,63		
Rated insulation voltage(V)	500		
Rated impulse withstand voltage(V) Uimp	6		
Rated operational voltage(V)	300/400/415		
Arcing distance(mm)	≤ 50		
Number of poles	3		4
Breaking capacity code	S	H	H
Frame size rated current(A)	63	63	63
Rated ultimate short-circuit breaking capacity Icu(KA, RMS). Test sequence: O-t-Co	AC 380V/400V/415V	15	35
	AC 690V	-	-
Rated service short-circuit breaking capacity Ics(KA, RMS). Test sequence: O-t-Co-t-Co	AC 380V/400V/415V	7.5	17.5
	AC 690V	-	-
Front connection	■		
Rear connection	■		
Plug in type	■		
Shunt release	■		
Under-voltage release	■		
Auxiliary contact	■		
Alarm contact	■		

Note:

- For products of 63H-800H, zero-arcing breakers are available(except 800H/4P).
- 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.


GM1-125

Frame size current	125					
Rated current(A)	16,20,25,32,40,50,63,80,100,125					
Rated insulation voltage(V)	800					
Rated impulse withstand voltage(V) Uimp	8					
Rated operational voltage(V)	300/400/415/690					
Arcing distance(mm)	≤50					
Number of poles	2	3			4	
Breaking capacity code	H	C	S	H	R	H
Frame size rated current(A)	100	100	100	100	100	100
Rated ultimate short-circuit breaking capacity Icu(KA, RMS). Test sequence: O-t-Co	AC 380V/400V/415V	50	10	25	50	65
	AC 690V	8	-	3	8	10
Rated service short-circuit breaking capacity Ics(KA, RMS). Test sequence: O-t-Co-t-Co	AC 380V/400V/415V	25	10	12.5	25	32.5
	AC 690V	4	-	1.5	4	5
Front connection	■					
Rear connection	■					
Plug in type	■					
Shunt release	■					
Under-voltage release	■					
Auxiliary contact	■					
Alarm contact	■					

GM1-250

Frame size current	250					
Rated current(A)	100,125,160,180,200,000,000					
Rated insulation voltage(V)	800					
Rated impulse withstand voltage(V) Uimp	8					
Rated operational voltage(V)	300/400/415/690					
Arcing distance(mm)	≤50					
Number of poles	2	3			4	
Breaking capacity code	H	S	H	R	H	
Frame size rated current(A)	225	225	225	225	225	
Rated ultimate short-circuit breaking capacity Icu(KA, RMS). Test sequence: O-t-Co	AC 380V/400V/415V	50	25	50	65	50
	AC 690V	8	5	8	10	8
Rated service short-circuit breaking capacity Ics(KA, RMS). Test sequence: O-t-Co-t-Co	AC 380V/400V/415V	25	12.5	25	32.5	25
	AC 690V	4	2.5	4	5	4
Front connection	■					
Rear connection	■					
Plug in type	■					
Shunt release	■					
Under-voltage release	■					
Auxiliary contact	■					
Alarm contact	■					

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GM1-400

Frame size current	400			
Rated current(A)	225,250,315,350,400			
Rated insulation voltage(V)	800			
Rated impulse withstand voltage(V) Uimp	8			
Rated operational voltage(V)	300/400/415/690			
Arcing distance(mm)	≤100			
Number of poles	3			4
Breaking capacity code	S	H	R	S
Frame size rated current(A)	400	400	400	400
Rated ultimate short-circuit breaking capacity Icu(KA, RMS). Test sequence: O-t-Co	AC 380V/400V/415V	35	50	70
	AC 690V	10	12	15
Rated service short-circuit breaking capacity Ics(KA, RMS). Test sequence: O-t-Co-t-Co	AC 380V/400V/415V	17.5	25	35
	AC 690V	5	6	7.5
Front connection	■			
Rear connection	■			
Plug in type	■			
Shunt release	■			
Under-voltage release	■			
Auxiliary contact	■			
Alarm contact	■			

GM1-630

Frame size current	630			
Rated current(A)	400,500,630			
Rated insulation voltage(V)	800			
Rated impulse withstand voltage(V) Uimp	8			
Rated operational voltage(V)	300/400/415/690			
Arcing distance(mm)	≤100			
Number of poles	3			4
Breaking capacity code	S	H	R	S
Frame size rated current(A)	630	630	630	630
Rated ultimate short-circuit breaking capacity Icu(KA, RMS). Test sequence: O-t-Co	AC 380V/400V/415V	35	50	70
	AC 690V	12	13	-
Rated service short-circuit breaking capacity Ics(KA, RMS). Test sequence: O-t-Co-t-Co	AC 380V/400V/415V	17.5	25	35
	AC 690V	6	6.5	-
Front connection	■			
Rear connection	■			
Plug in type	■			
Shunt release	■			
Under-voltage release	■			
Auxiliary contact	■			
Alarm contact	■			

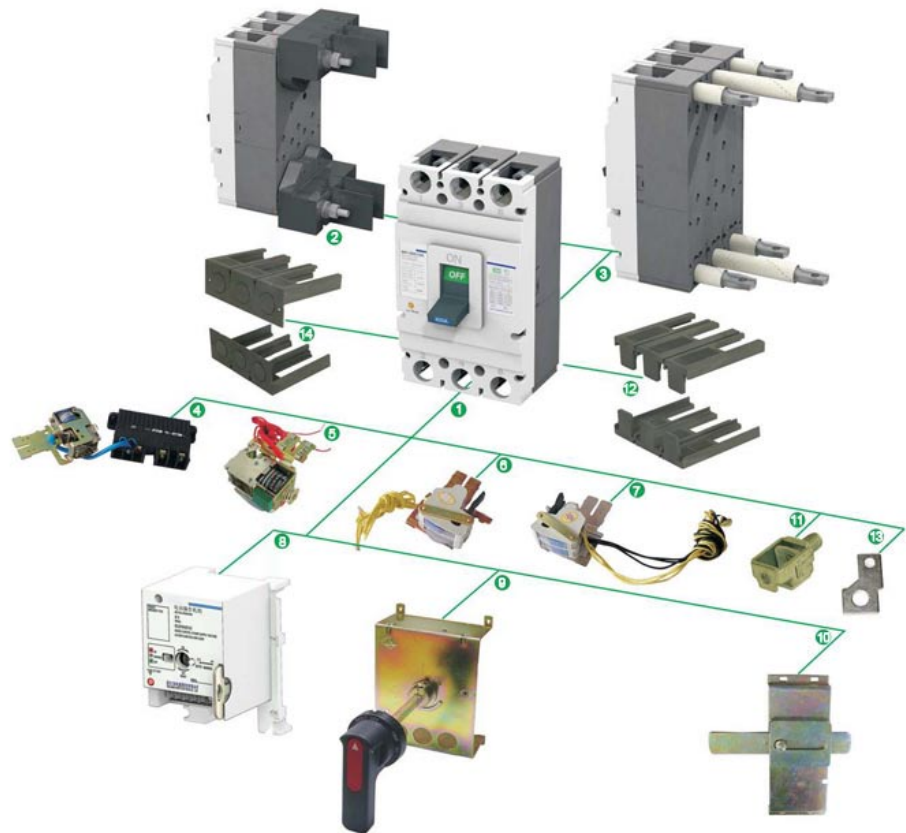




GM1-800, 1250

Frame size current		800		1250
Rated current(A)		630, 700, 800		700, 800, 1000, 1250
Rated insulation voltage(V)		500		
Rated impulse withstand voltage(V) Uimp		8		
Rated operational voltage(V)		380/ 400/ 415		
Arcing distance(mm)		≤100		
Number of poles		3	4	3
Breaking capacity code		H	R	H
Frame size rated current(A)		800	800	800
Rated ultimate short-circuit breaking capacity AC 380V/400V/415V		60	70	60
Icu(KA, RMS). Test sequence: O-t-Co	AC 690V	-	-	-
Rated service short-circuit breaking capacity AC 380V/400V/415V		30	35	30
Ics(KA, RMS). Test sequence: O-t-Co-t-Co	AC 690V	-	-	-
Front connection				■
Rear connection				■
Plug in type				■
Shunt release				■
Under-voltage release				■
Auxiliary contact				■
Alarm contact				■

Product overview



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

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), 1h(In ≤ 63A)	Cold status
2	Conventional trip current	1.3	2h(In > 63A), 1h(In ≤ 63A)	Right after test no. 1

Inverse time 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.

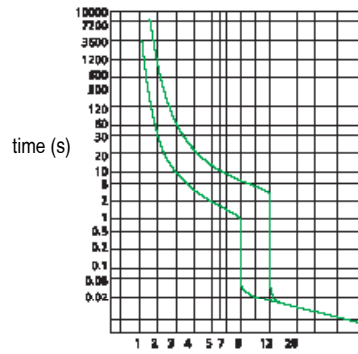
Frame size rated current (A)	Rated current (A)	Rated current at N-pole (A)
63	10	10
	16	16
	20	20
	25	25
	32	32
	40	40
	50	50
	63	63
100	10	10
	16	16
	20	20
	25	25
	32	32
	40	40
	50	50
	63	63
225	80	63
	100	63
	100	100
	125	100
	160	100
	180	100
	200	100
	225	125
400	225	225
	250	225
	315	225
	350	250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

Curves (for power distribution, calibrated at 40°C)

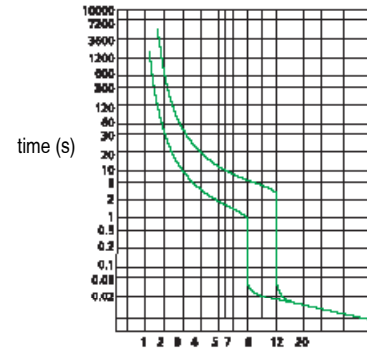
■ Curves

Operation property curve of GM1-63(10-32), GM1-100(16-32)



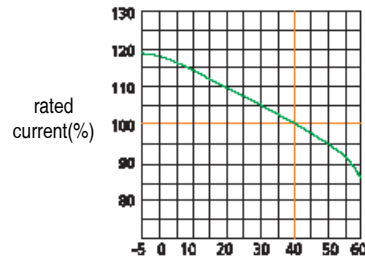
Multiple of rated current

Operation property curve of GM1-63(40-63), GM1-100(40-100)



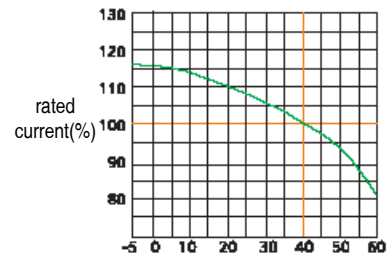
Multiple of rated current

Temperature compensation curve of GM1-63(10-32), GM1-100(16-32)



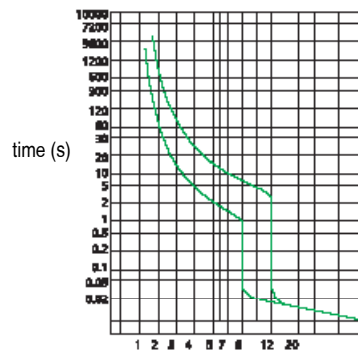
Ambient temperature (°C)

Temperature compensation curve of GM1-63(40-63), GM1-100(40-100)



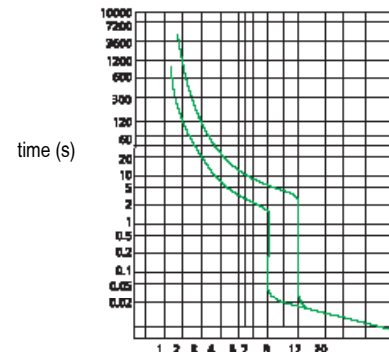
Ambient temperature (°C)

Operation property curve of GM1-225



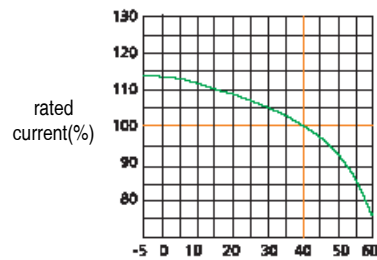
Multiple of rated current

Operation property curve of GM1-400



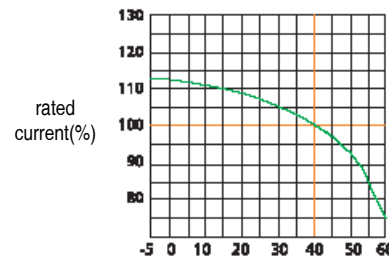
Multiple of rated current

Temperature compensation curve of GM1-225



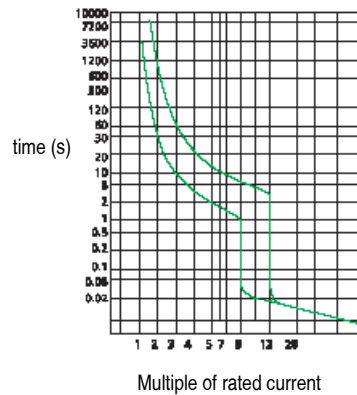
Ambient temperature (°C)

Temperature compensation curve of GM1-400

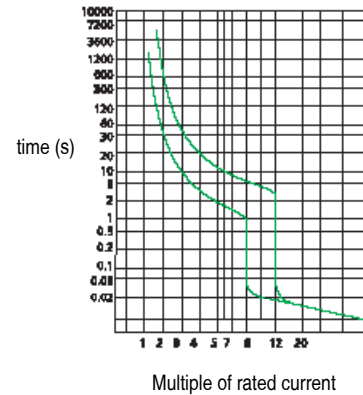


Ambient temperature (°C)

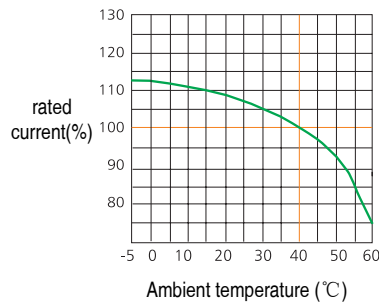
Operation property curve of GM1-630, 800



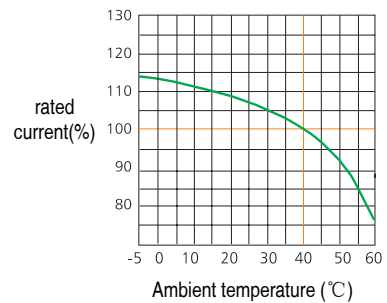
Operation property curve of GM1-1250



Temperature compensation curve of GM1-630, 800



Temperature compensation curve of GM1-1250



■ Temperature compensation correction

GM1 series temperature compensation coefficient table (calibration at 40°C, for the calibration at other temperature standards please contact with us)

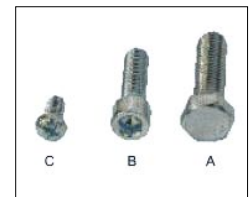
Type	Current range	Compensation coefficient													
		-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
GM1-63S,H,R	10-32A	1.18	1.17	1.16	1.14	1.12	1.09	1.07	1.05	1.03	1	0.97	0.95	0.92	0.87
GM1-63S,H,R	40-63A	1.16	1.16	1.15	1.14	1.12	1.10	1.08	1.06	1.03	1	0.97	0.94	0.87	0.82
GM1-100S,H,R	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
GM1-100S,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
GM1-225S,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
GM1-400S,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
GM1-630S,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
GM1-800H,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
GM1-1250H	700-1250A	1.14	1.13	1.12	1.11	1.10	1.09	1.07	1.05	1.03	1	0.97	0.82	0.85	0.76

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			■
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	■		

Frame level	Current (A)	Breaking capacity code	Front connection screw		
			Hexagonal socket screw (B)	Hexagonal head screw (A)	Cross screw (C)
225	200	R	■		
		S	■		
		H	■		
	225	R	■		
		S		■	
		H		■	
	250	R		■	
		S		■	
		H		■	
	315	R		■	
		S		■	
		H		■	
400	350	R		■	
		S		■	
		H		■	
	400	R		■	
		S		■	
		H		■	
	630	R		■	
		S		■	
		H		■	
	800	R		■	
		S		■	
		H		■	
1250	1000	R		■	
		S		■	
		H		■	
	1250	R		■	
		S		■	
		H		■	
	1600	R		■	
		S		■	
		H		■	
	2000	R		■	
		S		■	
		H		■	

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



Rear connection

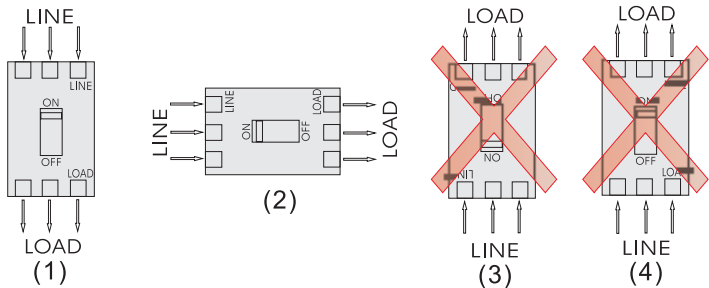
Plug-in connection



Rear connection is applicable to 3P and 4P products of GM1-63~GM1-800



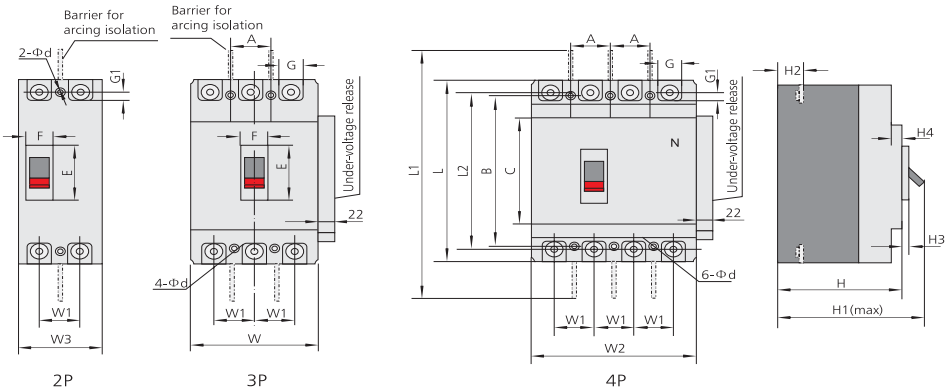
Plug-in connection is applicable to 3P and 4P products of GM1-63~GM1-800



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.

Overall and mounting dimensions

Overall and mounting dimensions of GM1-63, 100, 225 (fixed type)

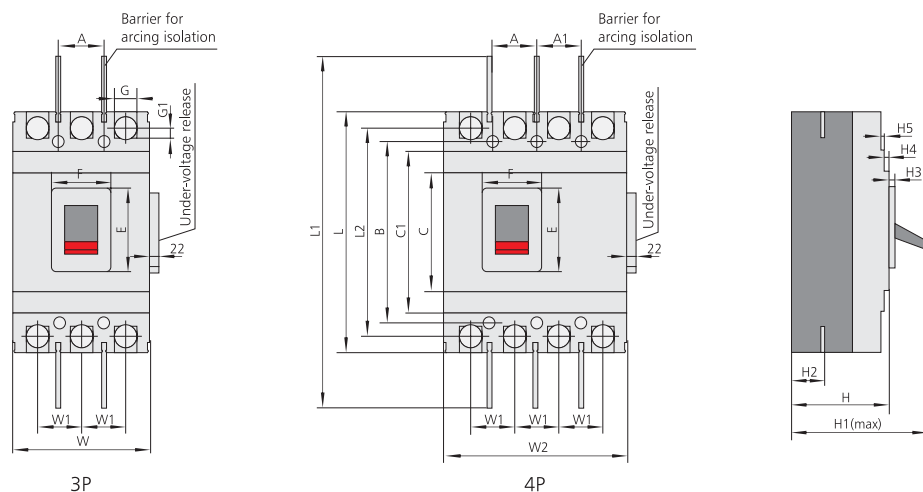


		Model					
		GM1-63S	GM1-63H	GM1-100S	GM1-100H GM1-100R	GM1-225S	GM1-225H GM1-225R
Overall dimensions	C	85	85	84	84	102	102
	E	48	48	50	50	50	50
	F	22	22	22	22	22	22
	G	14	14	17.5	17.5	23	23
	G1	6.5	6.5	7.5	7.5	11.5	11.5
	H	73	81	68	86	86	103
	H1	90	98.5	86	102	110	127
	H2	20	27	24	24	24	24
	H3	4	4	4	4	4	4
	H4	6	6	7	7	5	5
	L	135	135	155	155	165	165
	L1	170	173	255	255	360	360
	L1	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	55	35
	B	117	117	129	129	126	126
	Φd	3.5	3.5	4.5*6	4.5*6	5.5	5.5

GM1 Moulded Case Circuit Breaker

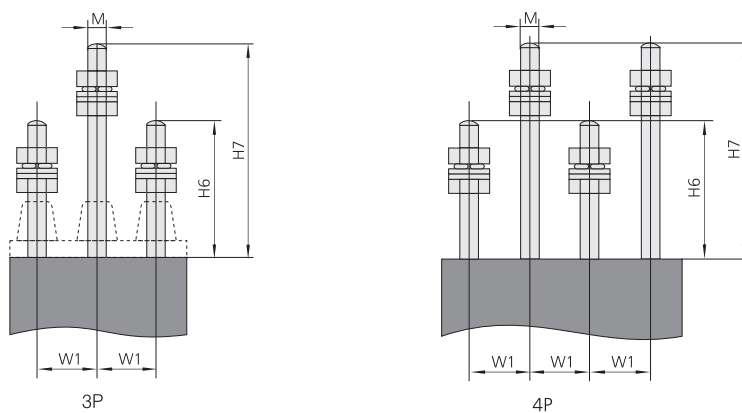
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Overall and mounting dimensions of GM1-400, 630, 800, 1250 (fixed type)

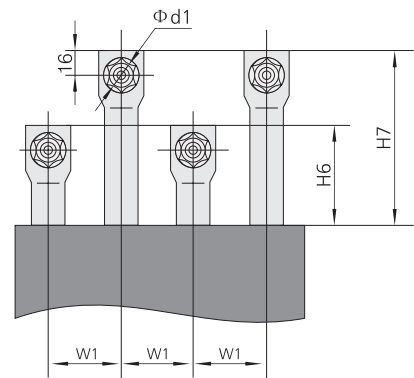
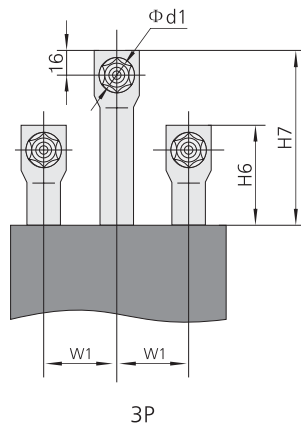


		Model						
		GM1-400S	GM1-400H GM1-400R	GM1-630S	GM1-630H	GM1-630R GM1-800H/R	GM1-800H/4P	GM1-1250H
Overall dimensions	C	102	129	134	134	154	135.5	265.5
	C1	179	175	184	184	204	206.5	345.5
	E	90	89	89	89	106	91	97
	F	62	65	65	65	66	52	78
	G	28	30.5	40	44	44	45	-
	G1	13	10.5	13.5	13.5	12.5	12	-
	H	104	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
	L1	225	225	234	234	243	243	375
	W	140	150	182	182	210	-	210
Mounting dimensions	W1	44	44	58	58	70	70	70
	W2	198	-	240	-	-	280	-
	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

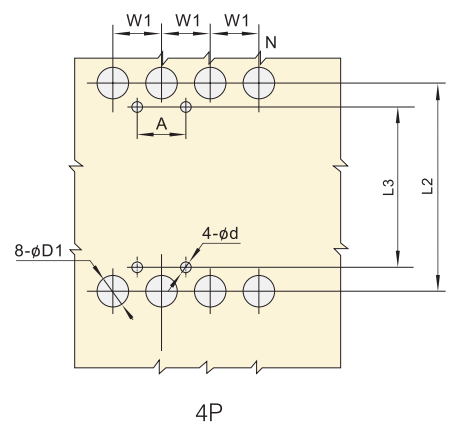
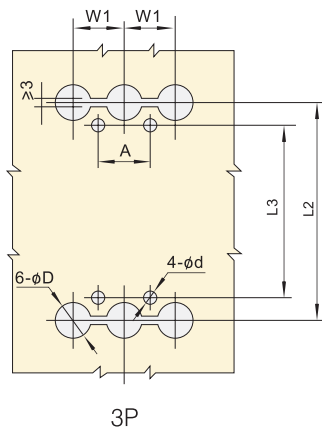
Overall and mounting dimensions of GM1-63, 100, 225 (rear connection)



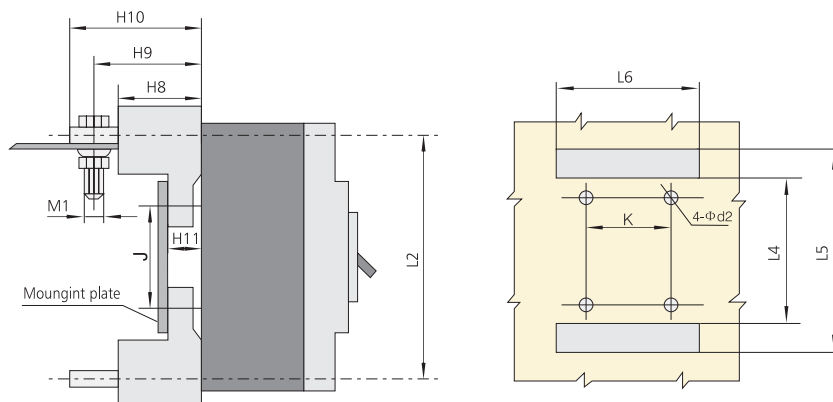
Overall and mounting dimensions of GM1-400, 630, 800 (rear connection)



Boring diagram of rear connection



Plug-in type

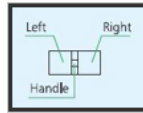


		Model						
		GM1-63S GM1-63H	GM1-100S GM1-100H GM1-100R	GM1-225S GM1-225H GM1-225R	GM1-400S	GM1-400H GM1-400R	GM1-630S GM1-630H	GM1-630R GM1-800H GM1-800R
Dimensions of rear connection and plug-in type	A	25	30	35	44	44	58	70
	Φd	3.5	4.5	5.5	7	7	7	7
	Φd1	-	-	-	Φ12.5	Φ12.5	Φ16.5	Φ16.5
	Φd2	6	8	8	8.5	9	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

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	GM1-100H GM1-225H	GM1-400S GM1-400H,R GM1-630S,H	GM1-63S,H GM1-100S,H,R GM1-225S,H,R	GM1-630R GM1-800H,R	GM1-1250H
			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 contact	268	368					
Under-voltage release auxiliary alarm contact	278	378					

■ Under-voltage release

a. $U_n=70-35\% U_s$, reliable operation

b. $U_n \leq 35\% U_s$, prevent breaker from making

c. $U_n \geq 85\% U_s$, reliable operation

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

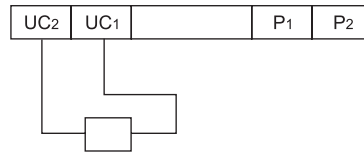
Code of under-voltage release

Code	A2	A4	D1	D2
Voltage	AC 230V	AC 400V	DC 110V	DC230V
Rated frequency	50Hz	50Hz	-	-

1



Wiring diagram of under-voltage release



Shunt release

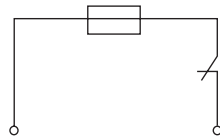
The rated control voltage of shunt release is 50Hz, 230V and 400V.
 $U_n = 70\% - 110\% U_s$, reliable operation

Code of shunt release

Code	A2	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 $5A \pm 10\%$

Wiring diagram of shunt release



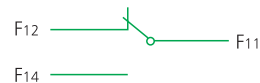
Auxiliary contact and alarm contact

Rated parameter of auxiliary contact

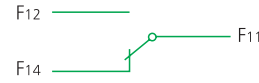
Frame size	Conventional heating current I_{th} (A)	Rated current I_e (A) at AC 400V	Rated current I_e (A) at DC 230V
$I_{nm} \leq 225A$	3	0.26	0.14
$I_{nm} \geq 400A$	6	3	0.2

a. Auxiliary contact

Circuit breaker is at breaking status



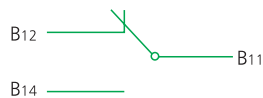
Circuit breaker is at making status



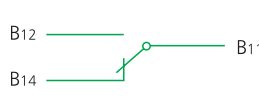
b. Alarm contact

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.

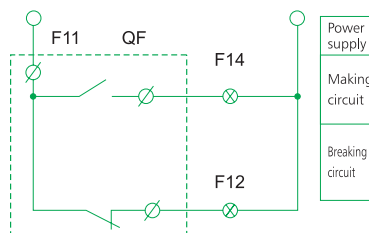
Circuit breaker is at "breaking" or "making" status



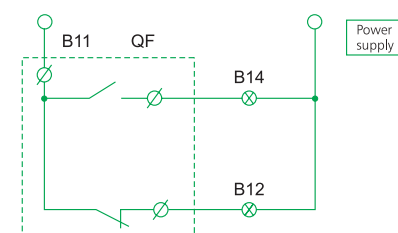
Circuit breaker is at free release (or alarming) status



Wiring diagram of GM1 auxiliary contact



Wiring diagram of GM1 alarm contact



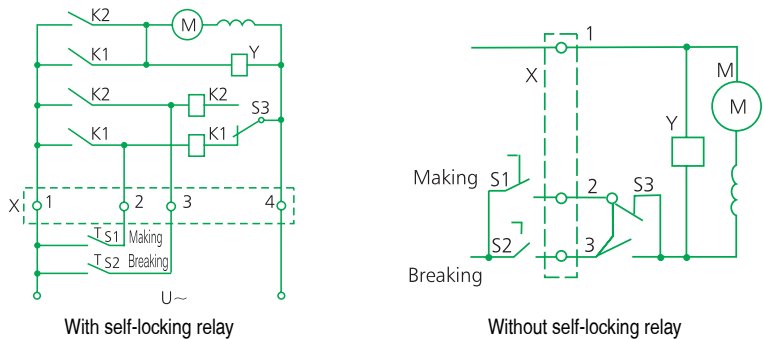
■ External accessories

Motor-driven operation mechanism

Items	Model	GM1-63, GM1-100, GM1-225	GM1-400, GM1-630, GM1-800 GM1-1250
Structure form		Electromagnet	Motor
Code of AC voltage		A2,A4	A2,A4
Code of DC voltage		D1,D2	D1,D2

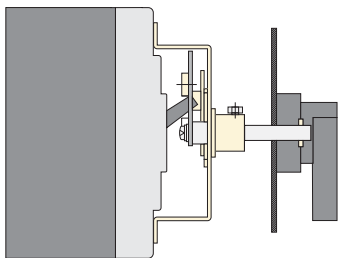
Note: A2: 220V/230V/240V, A4: 380V/400V/415V, D1: DC24V, D2: DC110V.

GM1-400, 630, 800, 1250 making and breaking diagram of motor-driven operation mechanism (AC)

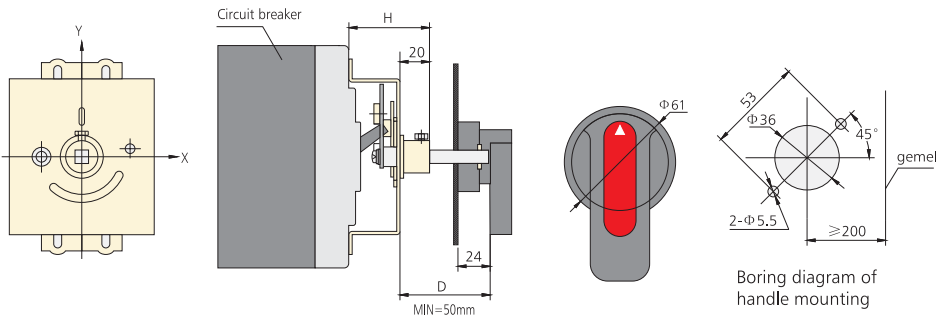


Specification AC 50Hz 230V or 400V

Making/breaking wiring diagram of manual operation mechanism



Mounting dimensions of manual operation mechanism

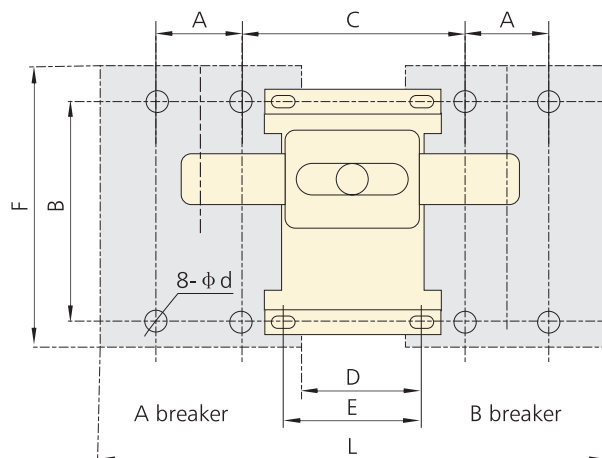


Model	GM1-63	GM1-100	GM1-225	GM1-400S	GM1-400H GM1-400R	GM1-630S	GM1-630R GM1-800H GM1-800R
Mounting size	49	54	54	84	76	83	76
Y value of the handle related to the center of the breaker	0	0	0	0	-10	0	-20

1



Mounting and boring dimensions



Note: 1. * stands for length of boring.

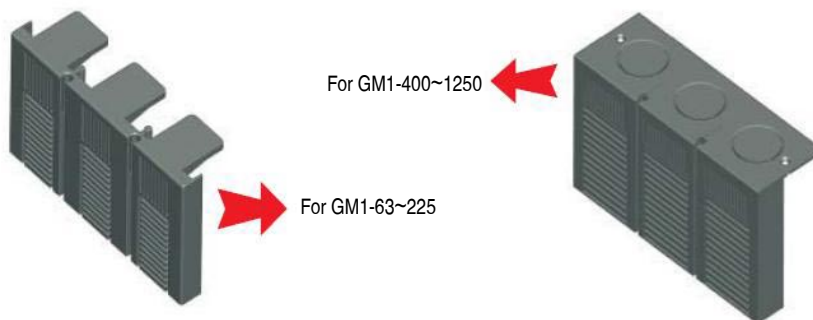
2. Install the breaker on the frame first, then install the mechanical interlock on the breaker.

Model	A	B	C	D	E	F	L	Φd
GM1-63								
GM1-100	30	129	90	30	90	155	210	4.5×6*
GM1-225	35	126	100	30	100	165	240	5.5
GM1-400	44	194	172	20	62	257	330	7
GM1-630	58	200	175	48	62	270	412	7
GM1-800								

GM1 Moulded Case Circuit Breaker

Complementary technical information

- The customized products of GM1-225, of which the capacity can be enriched to 250A is available.
- GM1-1250 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.
- Only H type breaker is applicable to manufacture GM1 series switch disconnector.
- Terminal covers of the whole series GM1 products are available, and the protection degree can be up to IP40 after the breaker is equipped with terminal cover.



Safe distance between other electric apparatuses for mounting

Type	GM1-63	GM1-100	GM1-225	GM1-400	GM1-630	GM1-800	GM1-1250
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

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	185×2	800<In≤1250	30	-

Technical data of GM1 series

Frame current(A)	Model	Number of poles	Ui(V)	Icu/Ics (kA)				
				220 240V	380 415V	440V	480 500V	660 690V
63	GM1-63S	3	500V	20/10	15/7.5	10/5	-	-
	GM1-63H	3	500V	42/21	35/17.5	20/10	-	-
	GM1-63H	4	500V	42/21	35/17.5	20/10	-	-
100	GM1-100S	3	800V	42/21	25/12.5	20/10	10/5	3/1.5
	GM1-100H	2	800V	65/32.5	50/25	42/21	25/12.5	8/4
	GM1-100H	3	800V	65/32.5	50/25	42/21	25/12.5	8/4
	GM1-100H	4	800V	65/32.5	50/25	42/21	25/12.5	8/4
	GM1-100R	3	800V	85/42.5	65/32.5	55/27.5	35/17.5	10/5
	GM1-225S	3	800V	42/21	25/12.5	20/10	10/5	5/2.5
225	GM1-225H	2	800V	65/32.5	50/25	42/21	25/12.5	8/4
	GM1-225H	3	800V	65/32.5	50/25	42/21	25/12.5	8/4
	GM1-225H	4	800V	65/32.5	50/25	42/21	25/12.5	8/4
	GM1-225R	3	800V	85/42.5	65/32.5	55/27.5	35/17.5	10/5
	GM1-400S	3	800V	50/25	35/17.5	30/15	15/7.5	10/5
	GM1-400S	4	800V	50/25	35/17.5	30/15	15/7.5	10/5
400	GM1-400H	3	800V	85/42.5	50/25	42/21	25/12.5	12/6
	GM1-400R	3	800V	100/50	70/35	65/32.5	42/21	15/7.5
	GM1-630S	3	800V	50/25	35/17.5	30/15	15/7.5	12/6
630	GM1-630S	4	800V	50/25	35/17.5	30/15	15/7.5	12/6
	GM1-630H	3	800V	85/42.5	50/25	42/21	25/12.5	13/6.5
	GM1-630R	3	800V	100/50	70/35	65/32.5	40/20	20/10
800	GM1-800H	3	800V	85/42.5	60/30	55/27.5	30/15	20/10
	GM1-800R	3	800V	100/50	70/35	65/32.5	40/20	20/10
1250	GM1-1250H	3	800V	85/42.5	65/32.5	55/27.5	30/15	15/7.5

GM1 Moulded Case Circuit Breaker

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Frame current(A)	Model	Number of poles	Ui(V)	Icu/Icm (kA)				
				220 240V	380 415V	440V	480 500V	660 690V
63	GM1-63S	3	500V	20/40	15/30	10/17		
	GM1-63H	3	500V	42/88.2	35/73.5	20/40		
	GM1-63H	4	500V	42/88.2	35/73.5	20/40		
100	GM1-100S	3	800V	42/88.2	25/52.5	20/40		
	GM1-100H	2	800V	65/143	50/105	42/88.5		
	GM1-100H	3	800V	65/143	50/105	42/88.2		
	GM1-100H	4	800V	65/143	50/105	42/88.2		
	GM1-100R	3	800V	85/187	65/143	55/121		
	GM1-100R	4	800V	85/187	65/143	55/121		
225	GM1-225S	3	800V	42/88.2	25/52.5	20/40		
	GM1-225H	2	800V	65/143	50/105	42/88.2		
	GM1-225H	3	800V	65/143	50/105	42/88.2		
	GM1-225H	4	800V	65/143	50/105	42/88.2		
	GM1-225R	3	800V	85/187	65/143	55/121		
400	GM1-400S	3	800V	50/105	35/73.5	30/63		
	GM1-400S	4	800V	50/105	35/73.5	30/63		
	GM1-400H	3	800V	85/187	50/105	42/88.2		
	GM1-400R	3	800V	100/220	70/154	65/143		
	GM1-400R	4	800V	100/220	70/154	65/143		
630	GM1-630S	3	800V	50/105	35/73.5	30/63		
	GM1-630S	4	800V	50/105	35/73.5	30/63		
	GM1-630H	3	800V	85/187	50/105	42/88.2		
	GM1-630R	3	800V	100/220	70/154	65/143		
800	GM1-800H	3	800V	85/187	60/132	55/121		
	GM1-800R	3	800V	100/220	70/154	65/143		
1250	GM1-1250H	3	800V	85/187	65/143	55/121		

Note: Parameters in black are only for your reference.

GM1 Moulded Case Circuit Breaker

■ Cascading

1. Cascading (220/230/240V)

Upstream: GM1-63~1250

Downstream: DZ47, DZ158, DZ267, GB1, GBH8, GM1-63~1250

Upstream → Breaking capacity (kA RMS)	GM1- 63S	GM1- 63H	GM1- 100S	GM1- 100H	GM1- 100R	GM1- 225S	GM1- 225H	GM1- 225R	GM1- 400S	GM1- 400H	GM1- 400R	GM1- 630S	GM1- 630H	GM1- 630R	GM1- 800H	GM1- 800R	GM1- 1250H
Downstream ↓	Breaking capacity (kA RMS)																
DZ267	20	40	20	35	50	20	25	30									
DZ47	20	40	20	35	50	20	25	30									
GBH8	20	40	20	35	50	20	25	30									
GB1(Icn=6000A)	20	42	25	35	50	25	35	35									
GB1(Icn=10000A)	20	42	25	40	50	25	35	40									
DZ158			25	40	50	25	40	50	30	40	50						
GM1-63S		42	25	50	65	25	50	65									
GM1-63H					65			65									
GM1-100S				50	65		50	65		50	70		50	70	60	70	65
GM1-100H					65			65			70			70		70	
GM1-225S							50	65		50	70		50	70	60	70	65
GM1-225H								65			70			70		70	
GM1-400S										50	70		50	70	60	70	65
GM1-400H											70					70	
GM1-630S													50		70		
GM1-630H														70			
GM1-800H																70	
GM1-1250H																	

2. Cascading (380/400/415V)

Upstream: GM1-63~1250

Downstream: DZ47, DZ158, DZ267, GB1, GBH8, GM1-63~1250

Upstream → Breaking capacity (kA RMS)	GM1- 63S	GM1- 63H	GM1- 100S	GM1- 100H	GM1- 100R	GM1- 225S	GM1- 225H	GM1- 225R	GM1- 400S	GM1- 400H	GM1- 400R	GM1- 630S	GM1- 630H	GM1- 630R	GM1- 800H	GM1- 800R	GM1- 1250H
Downstream ↓	Breaking capacity (kA RMS)																
DZ47	10	15	10	15	15	10	15	15									
GB1(Icn=6000A)	15	20	15	20	20	15	20	20									
GB1(Icn=10000A)	15	20	20	25	25	20	25	25									
DZ158			20	25	35	20	25	35	20	25	35						
GM1-63S		35	25	50	65	25	50	65									
GM1-63H					65			65									
GM1-100S				50	65		50	65		50	70		50	70	60	70	65
GM1-100H					65			65			70			70		70	
GM1-225S							50	65		50	70		50	70	60	70	65
GM1-225H								65			70			70		70	
GM1-400S										50	70		50	70	60	70	65
GM1-400H											70					70	
GM1-630S													50		70		
GM1-630H														70			
GM1-800H																70	
GM1-1250H																	