



HG-MCCB

Molded Case Circuit Breakers & Earth Leakage Circuit Breakers

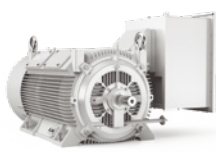
Marine

Marine Solution

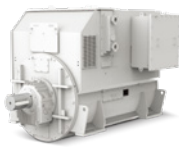
- Production of high quality marine devices satisfying the regulations and standards of key marine associations (LRS, ABS, DNV, GL, BV, NK etc.) and world's renowned institutes
- High quality safety secured through the latest equipment and stringent quality control system
- Realization of optimal high efficiency by converging SWGR, Generator, Motor, Telecom, Automation, Intelligent Motor Control Unit and others



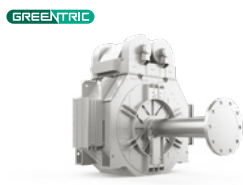
Marine Switchgear



Marine Motor



Generator



Shaft Generator



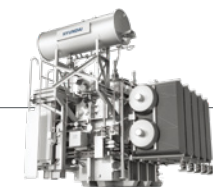
Metal Clad Switchgear

- up to 38 kV
- IEC, ANSI, UL



Low Voltage Switchgear & Motor Control Center

- H8PU : 480 V, 3,200 A, 65 kA
- H5600 : 480 V, 1,200 A, 65 kA
- HiMCC : 480 V, 5,000 A, 100 kA



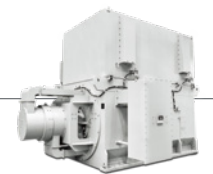
Distribution Transformer

- up to 36 kV, 50 MVA



Cast Resin Transformer

- up to 36 kV, 20 MVA



Synchronous Motor

- Rated Output: < 40 MW
- Rated Voltage: < 15 kV
- Ploes: > 2P



MV&HV Induction Motor

- Rated Output: < 35 MW
- Rated Voltage: < 15 kV
- Poles: 2P-30P



VCB

- IEC, ANSI, UL
- up to 36/38 kV, 50 kA, 4,000 A



ACB

- AC : up to 150 kA, 6,300 A
- DC : up to 60 kA, 4,000 A



VC

- up to 12 kV, 400 A



Switch-Disconnect

- DC : up to 100 kA/1 s, 4,000 A



HGMAP

- HGMAP Series



HGCAM

- HGCAM Series



MCCB

- AC : up to 150 kA, 1,600 A
- DC : up to 100 kA, 800 A



ELCB

- up to 85 kA, 800 A, 1,000 mA



MCCB / ELCB

- up to 10 kA, 100 A, 100 mA



MS / MC

- up to 800 A



Distribution Box

- Up to 36 ways
- Surface/Flush type



MCB

- up to 15 kA, 125 A



RCCB / RCBO

- up to 100 A, 500 mA



Isolator

- up to 125 A



Electronic Circuit Breaker

- up to 20 A



MMS

- up to 100 kA, 80 A



Fuse Links & Switches

- up to 1,250 A

- Can be applied to various places of demand due to various domestic and international certifications and marine certifications
- Full HG-Series line-up established
- High standard of breaking capacity and various product line offers production in any load environments
- Increased reliability with reinforced breaking performance of high-breaking MCCB
- Reinforced usage stability through internal reliability verification



SPD

- up to 200 kA
- AC, DC



HGDM



EOCR

- up to 60 A



LV Motor

- Rated Output: < 750 kW
- Rated Voltage: < 690 V
- Poles: 2P-12P

- Enhanced reliability and secured safety with production of products based on the world's best equipment and stringent quality system
- Realized high efficiency by selecting slot based on FEM
- Realized small and lightweight with optimal design based on FEM analysis method
- Satisfies the quality standards of international accredited institutes (IEC, IEEE, CSA, NEMA, API etc.)

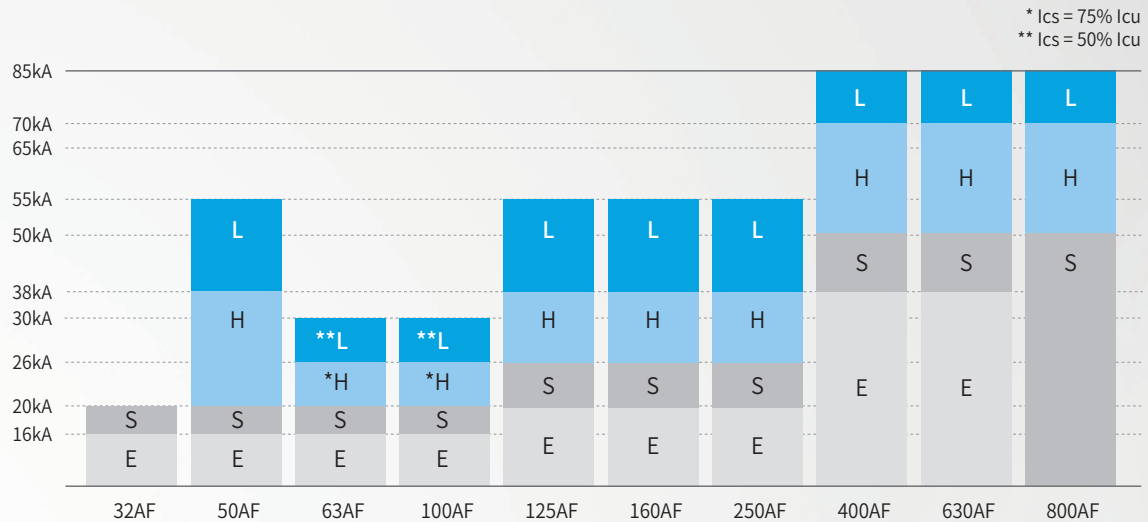
HG Series

Molded Case Circuit Breakers & Earth Leakage Circuit Breakers

Maximized selectivity and safety with wide product range and reinforced breaking performance!



Rated Short-Circuit Current by AF, (Ics = 100 % Icu at 440/460 V)



Wide Product Range

HGM/HGE 32 AF ~ 800 AF

High Breaking Capacity

16 kA ~ 85 kA (at 460 V), Ics = 100 % Icu

Rated Insulation Voltage of 1,000 V

Reinforcement of Protective Coordination

It enables selective breaking.

Adjustable Rated Current (Molded Case Circuit Breaker)

32 ~ 250 AF : 0.8 - 0.9 - 1 Times the Rated Current
400 ~ 800 AF : 0.63 - 0.8 - 1 Times the Rated Current

Adjustable Residual Current (Earth Leakage Circuit Breaker)

100 - 300 - 500 - 1,000 (mA)

Adjustable Residual Current's Non-Operation Hour (Earth Leakage Circuit Breaker)

0 - 200 - 500 - 1,000 (ms)



Molded Case Circuit Breakers



Earth Leakage Circuit Breakers

Characteristics

Enhanced Performance and Various Selectivity

Various Range of Products : 10 Frames, 32 ~ 800 AF

Compatible MCCB, ELCB Dimensions and Common Use of Accessories

Standardization of Product Depth per Frame : 32 ~ 250 AF (68 mm), 400 ~ 800 AF (110 mm)



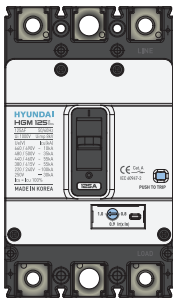
32, 50, 63, 100 AF



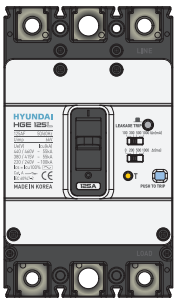
50, 125 AF



160, 250 AF



MCCB



ELCB



400 AF



630, 800 AF

Applicable standards and certifications

Applicable Standards

Korean Standards

KS C 8321 Molded Case Circuit Breaker for Industrial Uses

(Molded Case Circuit Breaker for Industrial Uses)

KS C 4613 Circuit Breaker Incorporating Residual Current Protection for Industrial Uses (CBR)

(Circuit Breaker Incorporating Residual Current Protection for Industrial Uses (CBR))

International Standards

IEC 60947-1

Low Voltage Switchgear and Controlgear, Part 1 (General Rules)

IEC 60947-2

Low Voltage Switchgear and Controlgear, Part 2 (Circuit Breakers)



Approvals and Certifications

HG-Series MCCB has acquired the testing/certification from certified testing institutes registered in STL in accordance with the IEC standard and domestic safety certifications (K 60747-2) and can be installed and applied depending on the usage environment and condition permitted in the standard.

- CB Certification (Certifying Institute, DEKRA)
- Safety Certification
- KS Certification
- Marine Approvals (8 Classifications)

Vibration/Shock-Proof Test Certification Acquired

Our product has qualified the vibration/shock-proof test in accordance with the IEC 60068-2-6 which is a requirement of IACS, an international vessel inspection institute.

- 5 ~ 13.2 Hz : Displacement (1 mm)
- 13.2 ~ 100 Hz : Acceleration (0.7 g)



Our services

Testing, Inspections, Certification DEKRA provides certification of management systems as well as technical support, testing and certification of a wide range of products throughout the life cycle.

Model Selection Table

Molded Case Circuit Breaker (HGM Type) : 32 ~ 250 AF

Common Ratings

Rated Insulation Voltage, U_i	1,000 V	Suitability for Isolation	Yes
Rated Operational Voltage, U_e	690 V	Utilization Category	A
Rated Impulse Withstand Voltage, U_{imp}	8 kV	Pollution Degree	3
Protection Function	Overload, Instantaneous, Short-Circuit Protection	Reference Standard	IEC 60947-2

Model Name			HGM30		HGM50			HGM60				
Frame		(AF)	32		50			63				
Number of Poles		(P)	2, 3, 4 ¹⁾		2, 3, 4 ¹⁾			2, 3, 4 ¹⁾				
Rated Current, at 40 °C		(A)	16, 20, 25, 32		16, 20, 25, 32, 40, 50			16, 20, 25, 32, 40, 50, 63				
Rated Ultimate Short-Circuit Breaking Capacity [Icu] (kA rms)												
Short-Circuit Breaking Category Code			E	S	E	S	H	L	E	S	H	L
AC 660/690 V			2.5	5	2.5	5	8	10	2.5	5	7.5	8
AC 480/500 V			7.5	10	7.5	10	26	35	7.5	10	14	26
AC 415/440/460 V			16	20	16	20	38	55	16	20	26	30
AC 380 V			18	22	18	22	42	55	18	22	30	31
AC 220/240 V			35	50	35	50	85	100	35	50	50	50
DC 250 V (2P)			5	10	5	10	20	30	5	10	15	15
Service Breaking Capacity [Ics = % Icu]			100	100	100	100	100	100	100	100	75	50
Rated Short-Circuit Making Capacity [Icm] (kA peak)												
AC 660/690 V			4	8	4	8	14	17	4	8	13	14
AC 480/500 V			13	17	13	17	55	74	13	17	28	55
AC 415/440/460 V			32	40	32	40	80	121	32	40	55	63
AC 380 V			36	47	36	47	89	121	36	47	63	66
AC 220/240 V			74	105	74	105	187	220	74	105	105	105
DC 250 V (2P)			8	17	8	17	40	63	8	17	30	30
Endurance [times] (Durability)												
Mechanical			30,000		30,000			30,000				
Electrical (at 460 V)			10,000		10,000			10,000				
Trip Device												
Thermal Magnetic	Long Time [LTD]	Fixed	(1.0)×In		(1.0)×In			(1.0)×In				
		Adjustable	(0.8 - 0.9 - 1.0)×In		(0.8 - 0.9 - 1.0)×In			(0.8 - 0.9 - 1.0)×In				
		Instantaneous [INST]	400 A		16 ~ 32 A : 400 A, 40 ~ 50 A : 10×In			16 ~ 32 A : 400 A, 40 ~ 63 A : 10×In				
Accessory												
Internal	Auxiliary Switch AUX		●		●			●				
	Alarm Switch ALT		●		●			●				
	Shunt Trip SHT		●		●			●				
	Under-Voltage Trip UVT		●		●			●				
External	Rotary Handle	Front Contact TFG	●		●			●				
		Extension TFH	●		●			●				
	Mechanical Open/Close Device MOT		●		●			●				
	Mechanical Interlock MIF		●		●			●				
	Handle Locking Device PLD		●		●			●				
	Plug-in	TDM (LINE/LOAD)		● (3P Only)		● (3P Only)		● (3P Only)		● (3P Only)		
		TDM (LINE Only)		● (3P Only)		● (3P Only)		● (3P Only)		● (3P Only)		
		TDF (LINE Only)		● (3P Only)		● (3P Only)		● (3P Only)		● (3P Only)		
		TDA (1 row)		● (3P Only)		● (3P Only)		● (3P Only)		● (3P Only)		
		TDA (2 rows)		● (2, 3P Only)		● (2, 3P Only)		● (3P Only)		● (2, 3P Only)		
	Cage Terminal Block CTB		●		●			●				
	Terminal Cover TCF		●		●			●				
	Insulation Barrier TQQ		●		●			●				
	Terminal Bus Bar TBB		-		-			-				
Installation and Dimensions												
Connection/ Installation	Front Connection		Terminal Screw									
	Rear Connection		Horizontal/Vertical									
	Plug-in		Switchgear (Line & Load, Line Only), Switchboard									
	DIN Rail Installation		Possible if DIN Rail adaptor is used			-		Possible if DIN Rail adaptor is used				
Dimension (mm)		a (2/3/4P)	50/75/100		50/75/100		60/90/120		50/75/100			
		b	130		130		155		130			
		c	68		68		68		68			
Weight (kg)		2/3/4P	0.6/0.8/1.0		0.6/0.8/1.0		0.8/1.0/1.3		0.6/0.8/1.0			
Detailed Rating and Selection			232 Page		232 Page		232 Page		232 Page			
Characteristic Curve and Appearance			149 / 166 Page		149 / 166 Page		150 / 167 Page		149 / 166 Page			

※ 1) 4 Pole Arrangement : Basic specification of R-S-T-N (N-R-S-T is optional.)

2) As for 2P products, only the neutral pole in the 3P product has been eliminated so the dimension is equivalent to the 3P product.

HGM100				HGM125				HGM160				HGM250			
100				125				160				250			
2, 3, 4 ¹⁾				2, 3, 4 ¹⁾				2 ²⁾ , 3, 4 ¹⁾				2 ²⁾ , 3, 4 ¹⁾			
16, 20, 25, 32, 40, 50, 63, 75, 80, 100				16, 20, 25, 32, 40, 50, 63, 75, 80, 100, 125				100, 125, 150, 160				100, 125, 150, 160, 175, 200, 225, 250			
E	S	H	L	E	S	H	L	E	S	H	L	E	S	H	L
2.5	5	7.5	8	5	7.5	8	10	7.5	8	8	10	7.5	8	8	10
7.5	10	14	26	10	14	26	35	14	20	26	35	14	20	26	35
16	20	26	30	20	26	38	55	20	26	38	55	20	26	38	55
18	22	30	31	22	30	42	55	22	30	42	55	22	30	42	55
35	50	50	50	50	65	85	100	50	65	85	100	50	65	85	100
5	10	15	15	10	15	20	30	10	15	20	30	10	15	20	30
100	100	75	50	100	100	100	100	100	100	100	100	100	100	100	100
4	8	13	14	8	13	14	17	8	13	14	17	8	13	14	17
13	17	28	55	17	28	55	74	17	28	55	74	17	28	55	74
32	40	55	63	40	55	80	121	40	55	80	121	40	55	80	121
36	47	63	66	47	63	89	121	47	63	89	121	47	63	89	121
74	105	105	105	105	143	187	220	105	143	187	220	105	143	187	220
8	17	30	30	17	30	40	63	17	30	40	63	17	30	40	63
30,000				30,000				25,000				25,000			
10,000				10,000				10,000				10,000			
(1.0)×In				(1.0)×In				(1.0)×In				(1.0)×In			
(0.8 - 0.9 - 1.0)×In				(0.8 - 0.9 - 1.0)×In				(0.8 - 0.9 - 1.0)×In				(0.8 - 0.9 - 1.0)×In			
16 ~ 32 A : 400 A, 40 ~ 100 A : 10×In				16 ~ 32 A : 400 A, 40 ~ 125 A : 10×In				10×In				10×In			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
● (3P Only)				● (3P Only)				● (3P Only)				● (3P Only)			
● (3P Only)				● (3P Only)				● (3P Only)				● (3P Only)			
● (3P Only)				● (3P Only)				-				-			
● (3P Only)				● (3P Only)				-				-			
● (2, 3P Only)				● (3P Only)				-				-			
●				●				●				●			
●				●				●				●			
●				●				●				●			
-				-				●				●			
Terminal Screw								Terminal Screw, Terminal Bus Bar							
Horizontal/Vertical								Horizontal/Vertical							
Switchgear (Line & Load, Line Only), Switchboard								Switchgear (Line & Load, Line Only)							
Possible if DIN Rail adaptor is used				-				-				-			
50/75/100				60/90/120				105/105/140				105/105/140			
130				155				165				165			
68				68				68				68			
0.6/0.8/1.0				0.8/1.0/1.3				1.1/1.3/1.7				1.1/1.3/1.7			
232 Page				232 Page				232 Page				232 Page			
149 / 166 Page				150 / 167 Page				151 / 168 Page				151 / 168 Page			

Model Selection Table

Molded Case Circuit Breaker (HGM Type) : 400 ~ 800 AF

Common Ratings

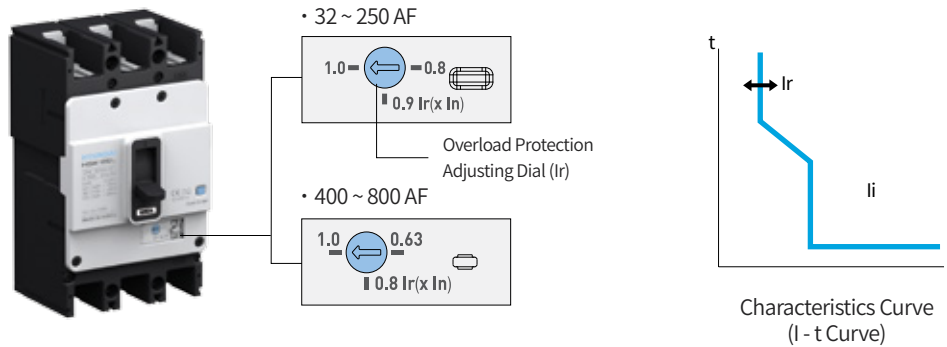
Rated Insulation Voltage, U_i	1,000 V	Suitability for Isolation	Yes
Rated Operational Voltage, U_e	690 V	Utilization Category	A
Rated Impulse Withstand Voltage, U_{imp}	8 kV	Pollution Degree	3
Protection Function	Overload, Instantaneous, Short-Circuit Protection	Reference Standard	IEC 60947-2

Model Name			HGM400				HGM630				HGM800		
Frame		(AF)	400				630				800		
Number of Poles		(P)	2 ²⁾ , 3, 4 ¹⁾				2 ²⁾ , 3, 4 ¹⁾				2 ²⁾ , 3, 4 ¹⁾		
Rated Current, at 40 °C		(A)	250, 300, 350, 400				500, 630				700, 800		
Rated Ultimate Short-Circuit Breaking Capacity [Icu] (kA rms)													
Short-Circuit Breaking Category Code			E	S	H	L	E	S	H	L	S	H	L
AC 660/690 V			5	8	10	14	5	8	10	14	8	10	14
AC 480/500 V			18	35	50	65	25	45	50	65	45	50	65
AC 440/460 V			38	50	70	85	38	50	70	85	50	70	85
AC 380/415 V			45	65	85	100	45	65	85	100	65	85	100
AC 220/240 V			50	75	100	125	50	75	100	125	75	100	125
DC 250 V (2P)			20	25	40	40	20	25	40	40	25	40	40
Service Breaking Capacity [Ics = % Icu]			100	100	100	100	100	100	100	100	100	100	100
Rated Short-Circuit Making Capacity [Icm] (kA peak)													
AC 660/690 V			8	14	17	28	8	14	17	28	14	17	28
AC 480/500 V			36	74	105	143	53	95	105	143	95	105	143
AC 440/460 V			80	105	154	187	80	105	154	187	105	154	187
AC 380/415 V			95	143	187	220	95	143	187	220	143	187	220
AC 220/240 V			105	165	220	275	105	165	220	275	165	220	275
DC 250 V (2P)			40	53	84	84	40	53	84	84	53	84	84
Endurance [times] (Durability)													
Mechanical			4,000				2,500				2,500		
Electrical (at 460 V)			1,000				500				500		
Trip Device													
Thermal Magnetic	Long Time [LTD]	Fixed	(1.0)×In				(1.0)×In				(1.0)×In		
		Adjustable	(0.63 - 0.8 - 1.0)×In ³⁾				(0.63 - 0.8 - 1.0)×In				(0.63 - 0.8 - 1.0)×In		
	Instantaneous [INST]		10×In				10×In				10×In		
Accessory													
Internal	Auxiliary Switch		AUX	●			●			●			
	Alarm Switch		ALT	●			●			●			
	Shunt Trip		SHT	●			●			●			
	Under-Voltage Trip		UVT	●			●			●			
External	Rotary Handle	Front Contact	TFG	●			●			●			
		Extension	TFH	●			●			●			
	Mechanical Open/Close Device		MOT	●			●			●			
	Mechanical Interlock		MIF	●			●			●			
	Handle Locking Device		PLD	●			●			●			
	Plug-in	TDM (LINE/LOAD)	● (3P Only)			● (3P Only)			● (3P Only)				
		TDM (LINE Only)	● (3P Only)			● (3P Only)			● (3P Only)				
		TDF (LINE Only)	-			-			-				
		TDA (1 row)	-			-			-				
		TDA (2 rows)	-			-			-				
	Cage Terminal Block		CTB	●			●			●			
	Terminal Cover		TCF	●			●			●			
	Insulation Barrier		TQQ	●			●			●			
	Terminal Bus Bar		TBB	●			●			●			
Installation and Dimensions													
Connection/ Installation		Front Connection	Terminal Screw				Terminal Screw, Terminal Bus Bar						
		Rear Connection	Horizontal/Vertical Cable				Horizontal/Vertical Cable						
		Plug-in	Switchgear (Line & Load, Line Only)				Switchgear (Line & Load, Line Only)						
Dimension (mm)		a (2/3/4P)	140/140/184				210/210/280				210/210/280		
		b	257				280				280		
		c	110				110				110		
Weight (kg)		2/3/4P	4/4.5/5.4				8.7/9.5/12.5				8.7/9.5/12.5		
Detailed Rating and Selection			232 Page				232 Page				232 Page		
Characteristic Curve and Appearance			151 / 169 Page				152 / 170 Page				152 / 170 Page		

※ 1) 4 Pole Arrangement : Basic specification of R-S-T-N (N-R-S-T is optional).

2) As for 2P products, only the neutral pole in the 3P product has been eliminated so the dimension is equivalent to the 3P product.

3) As for adjustable type, applicable to above 300 A.



Trip Unit Characteristics – Thermal Magnetic

Rated Current (A) In		16	20	25	32	40	50	63	75	80	100	125
MCCB	HGM30	●	●	●	●							
	HGM50	●	●	●	●	●	●					
	HGM60	●	●	●	●	●	●	●				
	HGM100	●	●	●	●	●	●	●	●	●	●	
	HGM125	●	●	●	●	●	●	●	●	●	●	●
Moment Characteristics Ir												
Setting Value (A)	Fixed	16	20	25	32	40	50	63	75	80	100	125
	0.8×In	12.8	16	20	25.6	32	40	50.4	60	64	80	100
	0.9×In	14.4	18	22.5	28.8	36	45	56.7	67.5	72	90	112.5
	1.0×In	16	20	25	32	40	50	63	75	80	100	125
Instantaneous Characteristics Ii												
Setting Value (A)	10×In (Min. 400 A)			400			500	630	750	800	1,000	1,250
	Max. Non-Tripping Current (A)			320			400	504	600	640	800	1,000
	Min. Tripping Current (A)			480			600	756	900	960	1,200	1,500
Neutral Pole Protection												
4P3D		Unprotected										
4P4D		-										

Rated Current (A) In		100	125	150	160	175	200	225	250	300	350	400	500	630	700	800
MCCB	HGM160	●	●	●	●											
	HGM250	●	●	●	●	●	●	●	●							
	HGM400								1)	●	●	●				
	HGM630												●	●		
	HGM800														●	●
Moment Characteristics Ir																
Setting Value (A)	Fixed	100	125	150	160	175	200	225	250	300	350	400	500	630	700	800
	0.63×In									189	221	252	315	397	441	504
	0.8×In	80	100	120	128	140	160	180	200	240	280	320	400	504	560	640
	0.9×In	90	112.5	135	144	157.5	180	202.5	225							
	1.0×In	100	125	150	160	175	200	225	250	300	350	400	500	630	700	800
Instantaneous Characteristics Ii																
Setting Value (A)	10×In	1,000	1,250	1,500	1,600	1,750	2,000	2,250	2,500	3,000	3,500	4,000	5,000	6,300	7,000	8,000
	Max. Non-Tripping Current (A)	800	1,000	1,200	1,280	1,400	1,600	1,800	2,000	2,400	2,800	3,200	4,000	5,040	5,600	6,400
	Min. Tripping Current (A)	1,200	1,500	1,800	1,920	2,100	2,400	2,700	3,000	3,600	4,200	4,800	6,000	7,560	8,400	9,600
Neutral Pole Protection																
4P3D		Unprotected														
4P4D		-														

※ 1) HGM400 250 A is fixed type only.

Model Selection Table

Switch - Disconnecter (HGM NA Type) : 50 ~ 800 AF

Switch - disconnecter is a switch for disconnection without protective function and as the appearance is equivalent to the circuit breaker, all accessories of the circuit breaker can be shared.

Common Ratings

Rated Insulation Voltage, Ui	1,000 V	Suitability for Isolation	Yes
Rated Operational Voltage, Ue	690 V	Utilization Category	AC 22 A/AC 23 A - DC 22 A/DC 23 A
Rated Impulse Withstand Voltage, Uimp	8 kV	Pollution Degree	3
		Reference Standard	IEC 60947-3

Model Name			HGM50NA	HGM100NA	HGM125NA	HGM160NA
Frame	(AF)		50	100	125	160
Number of Poles	(P)		3, 4 ¹⁾	3, 4 ¹⁾	3, 4 ¹⁾	3, 4 ¹⁾
Conventional Free Air Thermal Current, Ith at 60 °C	(A)		50	100	125	160
Rated Operational Current [Ie]						
AC 690 V (50/60 Hz)			50	100	125	160
DC 125 V (1 Pole Connection)			50	100	125	160
DC 250 V (2 Pole Connection)			50	100	125	160
Rated Short Circuit Making Current [Icm] (kA Peak @ AC 460)			0.8	1.7	2.1	2.7
Rated Short Time Withstand Current [Icw] (kA rms)			1	1	1	2
Endurance [times] (Durability)						
Mechanical			30,000	30,000	30,000	25,000
In @ 440 V			10,000	10,000	10,000	10,000
Accessory						
Internal	Auxiliary Switch	AUX	●	●	●	●
	Alarm Switch	ALT	●	●	●	●
	Shunt Trip	SHT	●	●	●	●
	Under-Voltage Trip	UVT	●	●	●	●
External	Rotary Handle	Front Contact TFG	●	●	●	●
		Extension TFH	●	●	●	●
	Mechanical Open/Close Device	MOT	●	●	●	●
	Mechanical Interlock	MIF	●	●	●	●
	Handle Locking Device	PLD	●	●	●	●
	Plug-in	TDM (LINE/LOAD)	● (3P Only)	● (3P Only)	● (3P Only)	● (3P Only)
		TDM (LINE Only)	● (3P Only)	● (3P Only)	● (3P Only)	● (3P Only)
		TDF (LINE Only)	● (3P Only)	● (3P Only)	● (3P Only)	-
		TDA (1 row)	● (3P Only)	● (3P Only)	● (3P Only)	-
		TDA (2 rows)	● (3P Only)	● (3P Only)	● (3P Only)	-
	Cage Terminal Block	CTB	●	●	●	●
	Terminal Cover	TCF	●	●	●	●
	Insulation Barrier	TQQ	●	●	●	●
	Terminal Bus Bar	TBB	-	-	-	●
Installation and Dimensions						
Connection/ Installation	Front Connection	Terminal Screw			Terminal Screw, Terminal Bus Bar	
	Rear Connection	Horizontal/Vertical			Horizontal/Vertical	
	Plug-in	Switchgear (Line & Load, Line Only), Distribution Panel			Switchgear (Line & Load, Line Only)	
	DIN Rail Installation	Possible if DIN Rail adaptor is be used			-	
Dimension (mm)	a (3/4P)	75/100	75/100	90/120	105/140	
	b	130	130	155	165	
	c	68	68	68	68	
Weight (kg)	3/4P	0.8/1.0	0.8/1.0	1.0/1.3	1.3/1.7	
Detailed Rating and Selection		232 Page	232 Page	232 Page	232 Page	
Characteristic Curve and Appearance		166 Page	166 Page	167 Page	168 Page	

※ 1) 4 Pole Arrangement : Basic specification of R-S-T-N (N-R-S-T is optional.)

Applicable Field of Switch – Disconnectors

- Bus bar connection and disconnection
- Disconnection of switchgear and control panel
- Switch for emergency power switchover (ATS)

HGM250NA	HGM400NA	HGM630NA	HGM800NA
250	400	630	800
3, 4 ¹⁾	3, 4 ¹⁾	3, 4 ¹⁾	3, 4 ¹⁾
250	400	630	800
250	400	630	800
250	400	630	800
250	400	630	800
4.2	6.8	10.7	13.6
2	4	6.3	8
25,000	4,000	2,500	2,500
10,000	1,000	500	500
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
● (3P Only)	● (3P Only)	● (3P Only)	● (3P Only)
● (3P Only)	● (3P Only)	● (3P Only)	● (3P Only)
-	-	-	-
-	-	-	-
-	-	-	-
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
Terminal Screw, Terminal Bus Bar	Terminal Screw	Terminal Screw, Terminal Bus Bar	Terminal Screw, Terminal Bus Bar
Horizontal/Vertical	Horizontal/Vertical Cable	Horizontal/Vertical Cable	Horizontal/Vertical Cable
Switchgear (Line & Load, Line Only)	Switchgear (Line & Load, Line Only)	Switchgear (Line & Load, Line Only)	Switchgear (Line & Load, Line Only)
-	-	-	-
105/140	140/184	210/280	210/280
165	257	280	280
68	110	110	110
1.3/1.7	4.5/5.4	9.5/12.5	9.5/12.5
232 Page	232 Page	232 Page	232 Page
168 Page	169 Page	170 Page	170 Page

Model Selection Table

Motor Protection Circuit Breakers (HGM MO Type) : 50 ~ 250 AF

Common Ratings

Rated Insulation Voltage, Ui	1,000 V	Suitability for Isolation	Yes
Rated Operational Voltage, Ue	690 V	Utilization Category	A
Rated Impulse Withstand Voltage, Uimp	8 kV	Pollution Degree	3
Protection Function	Instantaneous, Short-Circuit Protection	Reference Standard	IEC 60947-2

Model Name				HGM50				HGM60			
Frame		(AF)		50				63			
Number of Poles		(P)		3				3			
Rated Current, at 40 °C		(A)		40, 50				40, 50, 63			
Rated Ultimate Short-Circuit Breaking Capacity [Icu] (kA rms)											
Short-Circuit Breaking Category Code				E	S	H	L	E	S	H	L
AC 660/690 V				2.5	5	8	10	2.5	5	7.5	8
AC 480/500 V				7.5	10	26	35	7.5	10	14	26
AC 415/440/460 V				16	20	38	55	16	20	26	30
AC 380 V				18	22	42	55	18	22	30	31
AC 220/240 V				35	50	85	100	35	50	50	50
DC 250 V (2P)				5	10	20	30	5	10	15	15
Service Breaking Capacity [Ics = % Icu]				100	100	100	100	100	100	75	50
Rated Short-Circuit Making Capacity [Icm] (kA peak)											
AC 660/690 V				4	8	14	17	4	8	13	14
AC 480/500 V				13	17	55	74	13	17	28	55
AC 415/440/460 V				32	40	80	121	32	40	55	63
AC 380 V				36	47	89	121	36	47	63	66
AC 220/240 V				74	105	187	220	74	105	105	105
DC 250 V (2P)				8	17	40	63	8	17	30	30
Endurance [times] (Durability)											
Mechanical				30,000				30,000			
Electrical (at 460 V)				10,000				10,000			
Trip Device											
Magnetic		Instantaneous [INST]		10×In				10×In			
Accessory											
Internal	Auxiliary Switch		AUX	●				●			
	Alarm Switch		ALT	●				●			
	Shunt Trip		SHT	●				●			
	Under-Voltage Trip		UVT	●				●			
External	Rotary Handle	Front Contact	TFG	●				●			
		Extension	TFH	●				●			
		Mechanical Open/Close Device	MOT	●				●			
	Mechanical Interlock		MIF	●				●			
	Handle Locking Device		PLD	●				●			
	Plug-in	TDM (LINE/LOAD)	● (3P Only)	● (3P Only)		● (3P Only)					
		TDM (LINE Only)	● (3P Only)	● (3P Only)		● (3P Only)					
		TDF (LINE Only)	● (3P Only)	● (3P Only)		● (3P Only)					
		TDA (1 row)	● (3P Only)	● (3P Only)		● (3P Only)					
		TDA (2 rows)	● (2, 3P Only)	● (3P Only)		● (2, 3P Only)					
	Cage Terminal Block		CTB	●				●			
	Terminal Cover		TCF	●				●			
	Insulation Barrier		TQQ	●				●			
	Terminal Bus Bar		TBB	-				-			
Installation and Dimensions											
Connection/ Installation		Front Connection		Terminal Screw							
		Rear Connection		Horizontal/Vertical							
		Plug-in		Switchgear (Line & Load, Line Only), Distribution Panel							
		DIN Rail Installation		Possible if DIN Rail adaptor is be used		-		Possible if DIN Rail adaptor is be used			
Dimension (mm)		a		75		90		75			
		b		130		155		130			
		c		68		68		68			
Weight (kg)		3P		0.8		1.0		0.8			
Detailed Rating and Selection				232 Page		232 Page		232 Page			
Characteristic Curve and Appearance				149 / 166 Page		150 / 167 Page		149 / 166 Page			

HGM100				HGM125				HGM160				HGM250			
100				125				160				250			
3				3				3				3			
40, 50, 63, 75, 80, 100				40, 50, 63, 75, 80, 100, 125				100, 125, 150, 160				100, 125, 150, 160, 175, 200, 225, 250			
E	S	H	L	E	S	H	L	E	S	H	L	E	S	H	L
2.5	5	7.5	8	5	7.5	8	10	7.5	8	8	10	7.5	8	8	10
7.5	10	14	26	10	14	26	35	14	20	26	35	14	20	26	35
16	20	26	30	20	26	38	55	20	26	38	55	20	26	38	55
18	22	30	31	22	30	42	55	22	30	42	55	22	30	42	55
35	50	50	50	50	65	85	100	50	65	85	100	50	65	85	100
5	10	15	15	10	15	20	30	10	15	20	30	10	15	20	30
100	100	75	50	100	100	100	100	100	100	100	100	100	100	100	100
4	8	13	14	8	13	14	17	8	13	14	17	8	13	14	17
13	17	28	55	17	28	55	74	17	28	55	74	17	28	55	74
32	40	55	63	40	55	80	121	40	55	80	121	40	55	80	121
36	47	63	66	47	63	89	121	47	63	89	121	47	63	89	121
74	105	105	105	105	143	187	220	105	143	187	220	105	143	187	220
8	17	30	30	17	30	40	63	17	30	40	63	17	30	40	63
30,000				30,000				25,000				25,000			
10,000				10,000				10,000				10,000			
10×In				10×In				10×In				10×In			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
● (3P Only)				● (3P Only)				● (3P Only)				● (3P Only)			
● (3P Only)				● (3P Only)				● (3P Only)				● (3P Only)			
● (3P Only)				● (3P Only)				-				-			
● (3P Only)				● (3P Only)				-				-			
● (2, 3P Only)				● (3P Only)				-				-			
●				●				●				●			
●				●				●				●			
●				●				●				●			
-				-				●				●			
Terminal Screw Horizontal/Vertical								Terminal Screw, Terminal Bus Bar Horizontal/Vertical							
Switchgear (Line & Load, Line Only), Distribution Panel								Switchgear (Line & Load, Line Only)							
Possible if DIN Rail adaptor is be used				-				-				-			
75				90				105				105			
130				155				165				165			
68				68				68				68			
0.8				1.0				1.3				1.3			
232 Page				232 Page				232 Page				232 Page			
149 / 166 Page				150 / 167 Page				151 / 168 Page				151 / 168 Page			

Model Selection Table

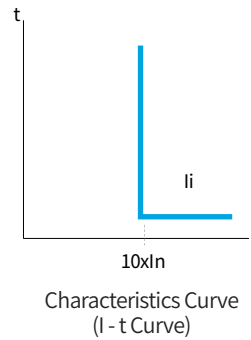
Motor Protection Circuit Breakers (HGM MO Type) : 400 ~ 800 AF

Common Ratings

Rated Insulation Voltage, Ui	1,000 V	Suitability for Isolation	Yes
Rated Operational Voltage, Ue	690 V	Utilization Category	A
Rated Impulse Withstand Voltage, Uimp	8 kV	Pollution Degree	3
Protection Function	Instantaneous, Short-Circuit Protection	Reference Standard	IEC 60947-2

Model Name			HGM400				HGM630				HGM800		
Frame		(AF)	400				630				800		
Number of Poles		(P)	3				3				3		
Rated Current, at 40 °C		(A)	250, 300, 350, 400				500, 630				700, 800		
Rated Ultimate Short-Circuit Breaking Capacity [Icu] (kA rms)													
Short-Circuit Breaking Category Code			E	S	H	L	E	S	H	L	S	H	L
AC 660/690 V			5	8	10	14	5	8	10	14	8	10	14
AC 480/500 V			18	35	50	65	25	45	50	65	45	50	65
AC 440/460 V			38	50	70	85	38	50	70	85	50	70	85
AC 380/415 V			45	65	85	100	45	65	85	100	65	85	100
AC 220/240 V			50	75	100	125	50	75	100	125	75	100	125
DC 250 V (2P)			20	25	40	40	20	25	40	40	25	40	40
Service Breaking Capacity [Ics = % Icu]			100	100	100	100	100	100	100	100	100	100	100
Rated Short-Circuit Making Capacity [Icm] (kA peak)													
AC 660/690 V			8	14	17	28	8	14	17	28	14	17	28
AC 480/500 V			36	74	105	143	53	95	105	143	95	105	143
AC 440/460 V			80	105	154	187	80	105	154	187	105	154	187
AC 380/415 V			95	143	187	220	95	143	187	220	143	187	220
AC 220/240 V			105	165	220	275	105	165	220	275	165	220	275
DC 250 V (2P)			40	53	84	84	40	53	84	84	53	84	84
Endurance [times] (Durability)													
Mechanical			4,000				2,500				2,500		
Electrical (at 460 V)			1,000				500				500		
Trip Device													
Magnetic	Instantaneous [INST]		10×In				10×In				10×In		
Accessory													
Internal	Auxiliary Switch		AUX	●			●			●			
	Alarm Switch		ALT	●			●			●			
	Shunt Trip		SHT	●			●			●			
	Under-Voltage Trip		UVT	●			●			●			
External	Rotary Handle	Front Contact	TFG	●			●			●			
		Extension	TFH	●			●			●			
	Mechanical Open/Close Device		MOT	●			●			●			
	Mechanical Interlock		MIF	●			●			●			
	Handle Locking Device		PLD	●			●			●			
	Plug-in	TDM (LINE/LOAD)		● (3P Only)			● (3P Only)			● (3P Only)			
		TDM (LINE Only)		● (3P Only)			● (3P Only)			● (3P Only)			
		TDF (LINE Only)		-			-			-			
		TDA (1 row)		-			-			-			
		TDA (2 rows)		-			-			-			
	Cage Terminal Block		CTB	●			●			●			
	Terminal Cover		TCF	●			●			●			
	Insulation Barrier		TQQ	●			●			●			
Terminal Bus Bar		TBB	●			●			●				
Installation and Dimensions													
Connection/ Installation		Front Connection	Terminal Screw				Terminal Screw, Terminal Bus Bar						
		Rear Connection	Horizontal/Vertical Cable				Horizontal/Vertical Cable						
		Plug-in	Switchgear (Line & Load, Line Only)				Switchgear (Line & Load, Line Only)						
Dimension (mm)		a (3P)	140				210			210			
		b	257				280			280			
		c	110				110			110			
Weight (kg)		3P	4.5				9.5			9.5			
Detailed Rating and Selection			232 Page				232 Page			232 Page			
Characteristic Curve and Appearance			151 / 169 Page				152 / 170 Page			152 / 170 Page			





Trip Unit Characteristics - Thermal Magnetic

Rated Current (A) In		40	50	63	75	80	100	125
MCCB	HGM50	●	●					
	HGM60	●	●	●				
	HGM100	●	●	●	●	●	●	
	HGM125	●	●	●	●	●	●	●
Instantaneous Characteristics li								
Setting Value (A)	10× In	400	500	630	750	800	1,000	1,250
	Max. Non-Tripping Current (A)	320	400	504	600	640	800	1,000
	Min. Tripping Current (A)	480	600	756	900	960	1,200	1,500

Rated Current (A) In		100	125	150	160	175	200	225	250	300	350	400	500	630	700	800
MCCB	HGM160	●	●	●	●											
	HGM250	●	●	●	●	●	●	●	●							
	HGM400								●	●	●	●				
	HGM630												●	●		
	HGM800														●	●
Instantaneous Characteristics li																
Setting Value (A)	10× In	1,000	1,250	1,500	1,600	1,750	2,000	2,250	2,500	3,000	3,500	4,000	5,000	6,300	7,000	8,000
	Max. Non-Tripping Current (A)	800	1,000	1,200	1,280	1,400	1,600	1,800	2,000	2,400	2,800	3,200	4,000	5,040	5,600	6,400
	Min. Tripping Current (A)	1,200	1,500	1,800	1,920	2,100	2,400	2,700	3,000	3,600	4,200	4,800	6,000	7,560	8,400	9,600

Model Selection Table

ZCT Embedded Molded Case Circuit Breaker (HGM Type) : 32 ~ 250 AF

As a model with a built-in ZCT in MCCB, it is a device that detects grounding when connected to an external ELR (Earth Leakage Relay) that can enhance reliability.

Common Ratings

Rated Insulation Voltage, U_i	1,000 V	Suitability for Isolation	Yes
Rated Operational Voltage, U_e	690 V	Utilization Category	A
Rated Impulse Withstand Voltage, U_{imp}	8 kV	Pollution Degree	3
Protection Function	Overload, Instantaneous, Short-Circuit Protection	Reference Standard	IEC 60947-2

Model Name		HGM30	HGM50	HGM60
Frame (AF)		32	50	63
Number of Poles (P)		2 ²⁾ , 3, 4 ¹⁾	2 ²⁾ , 3, 4 ¹⁾	2 ²⁾ , 3, 4 ¹⁾
Rated Current, at 40°C (A)		16, 20, 25, 32	16, 20, 25, 32, 40, 50	16, 20, 25, 32, 40, 50, 63
Rated Ultimate Short-Circuit Breaking Capacity [I_{cu}] (kA rms)				
Short-Circuit Breaking Category Code		E S	E S H L	E S H L
AC 660/690 V		2.5 5	2.5 5 8 10	2.5 5 7.5 8
AC 480/500 V		7.5 10	7.5 10 26 35	7.5 10 14 26
AC 415/440/460 V		16 20	16 20 38 55	16 20 26 30
AC 380 V		18 22	18 22 42 55	18 22 30 31
AC 220/240 V		35 50	35 50 85 100	35 50 50 50
Service Breaking Capacity [I_{cs} = % I_{cu}]		100 100	100 100 100 100	100 100 75 50
Rated Short-Circuit Making Capacity [I_{cm}] (kA peak)				
AC 660/690 V		4 8	4 8 14 17	4 8 13 14
AC 480/500 V		13 17	13 17 55 74	13 17 28 55
AC 415/440/460 V		32 40	32 40 80 121	32 40 55 63
AC 380 V		36 47	36 47 89 121	36 47 63 66
AC 220/240 V		74 105	74 105 187 220	74 105 105 105
DC 250 V (2P)		8 17	8 17 40 63	8 17 30 30
Endurance [times] (Durability)				
Mechanical		30,000	30,000	30,000
Electrical (at 460 V)		10,000	10,000	10,000
ZCT Output Characteristics		200 mA/100 mV	200 mA/100 mV	200 mA/100 mV
Trip Device				
Thermal	Long Time [LTD]	(1.0) × In	(1.0) × In	(1.0) × In
Magnetic	Instantaneous [INST]	400 A	16 ~ 32 A : 400 A, 40 ~ 50 A : 10 × In	16 ~ 32 A : 400 A, 40 ~ 63 A : 10 × In
Accessory				
Internal	Auxiliary Switch AUX	●	●	●
	Alarm Switch ALT	●	●	●
	Shunt Trip SHT	●	●	●
	Under-Voltage Trip UVT	●	●	●
External	Rotary Handle	●	●	●
	Front Contact TFG	●	●	●
	Extension TFH	●	●	●
	Mechanical Open/Close Device MOT	●	●	●
	Mechanical Interlock MIF	●	●	●
	Handle Locking Device PLD	●	●	●
	Plug-in	TDM (LINE/LOAD)	● (3P Only)	● (3P Only)
		TDM (LINE Only)	● (3P Only)	● (3P Only)
		TDF (LINE Only)	● (3P Only)	● (3P Only)
		TDA (1 row)	● (3P Only)	● (3P Only)
		TDA (2 rows)	● (2, 3P Only)	● (2, 3P Only)
	Cage Terminal Block CTB	●	●	●
	Terminal Cover TCF	●	●	●
	Insulation Barrier TQQ	●	●	●
	Terminal Bus Bar TBB	-	-	-
Installation and Dimensions				
Connection/ Installation	Front Connection	Terminal Screw		
	Rear Connection	Horizontal/Vertical		
	Plug-in	Switchgear (Line & Load, Line Only), Distribution Panel		
	DIN Rail Installation	Possible if DIN Rail adaptor is used	-	Possible if DIN Rail adaptor is used
Dimension (mm)	a (2/3/4P)	75/75/100	75/75/100	90/90/120
	b	130	130	155
	c	68	68	68
Weight (kg)	2/3/4P	0.7/0.8/1.0	0.7/0.8/1.0	0.9/1.0/1.3
Detailed Rating and Selection		232 Page	232 Page	232 Page
Characteristic Curve and Appearance		149 / 166 Page	149 / 166 Page	150 / 167 Page

※ 1) 4 Pole Arrangement : Basic specification of R-S-T-N

2) As for 2P products, only the neutral pole in the 3P product has been eliminated so the dimension is equivalent to the 3P product.

HGM100				HGM125				HGM160				HGM250			
100				125				160				250			
2 ²⁾ , 3, 4 ¹⁾				2 ²⁾ , 3, 4 ¹⁾				2 ²⁾ , 3, 4 ¹⁾				2 ²⁾ , 3, 4 ¹⁾			
16, 20, 25, 32, 40, 50, 63, 75, 80, 100				16, 20, 25, 32, 40, 50, 63, 75, 80, 100, 125				100, 125, 150, 160				100, 125, 150, 160, 175, 200, 225, 250			
E	S	H	L	E	S	H	L	E	S	H	L	E	S	H	L
2.5	5	7.5	8	5	7.5	8	10	7.5	8	8	10	7.5	8	8	10
7.5	10	14	26	10	14	26	35	14	20	26	35	14	20	26	35
16	20	26	30	20	26	38	55	20	26	38	55	20	26	38	55
18	22	30	31	22	30	42	55	22	30	42	55	22	30	42	55
35	50	50	50	50	65	85	100	50	65	85	100	50	65	85	100
100	100	75	50	100	100	100	100	100	100	100	100	100	100	100	100
4	8	13	14	8	13	14	17	8	13	14	17	8	13	14	17
13	17	28	55	17	28	55	74	17	28	55	74	17	28	55	74
32	40	55	63	40	55	80	121	40	55	80	121	40	55	80	121
36	47	63	66	47	63	89	121	47	63	89	121	47	63	89	121
74	105	105	105	105	143	187	220	105	143	187	220	105	143	187	220
8	17	30	30	17	30	40	63	17	30	40	63	17	30	40	63
30,000				30,000				25,000				25,000			
10,000				10,000				10,000				10,000			
200 mA/100 mV				200 mA/100 mV				200 mA/100 mV				200 mA/100 mV			
(1.0)×In				(1.0)×In				(1.0)×In				(1.0)×In			
16 ~ 32 A : 400 A, 40 ~ 100 A : 10×In				16 ~ 32 A : 400 A, 40 ~ 125 A : 10×In				10×In				10×In			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
●				●				●				●			
● (3P Only)				● (3P Only)				● (3P Only)				● (3P Only)			
● (3P Only)				● (3P Only)				● (3P Only)				● (3P Only)			
● (3P Only)				● (3P Only)				-				-			
● (3P Only)				● (3P Only)				-				-			
● (2, 3P Only)				● (3P Only)				-				-			
●				●				●				●			
●				●				●				●			
●				●				●				●			
-				-				●				●			
Terminal Screw Horizontal/Vertical								Terminal Screw, Terminal Bus Bar Horizontal/Vertical							
Switchgear (Line & Load, Line Only), Distribution Panel								Switchgear (Line & Load, Line Only)							
Possible if DIN Rail adaptor is used								-							
75/75/100				90/90/120				105/105/140				105/105/140			
130				155				165				165			
68				68				68				68			
0.7/0.8/1.0				0.9/1.0/1.3				1.1/1.3/1.7				1.1/1.3/1.7			
232 Page				232 Page				232 Page				232 Page			
149 / 166 Page				150 / 167 Page				151 / 168 Page				151 / 168 Page			

Model Selection Table

ZCT Embedded Molded Case Circuit Breaker (HGM Type) : 400 ~ 800 AF

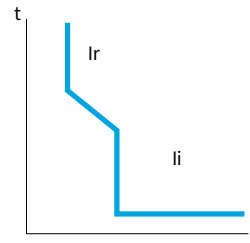
Common Ratings

Rated Insulation Voltage, U_i	1,000 V	Suitability for Isolation	Yes
Rated Operational Voltage, U_e	690 V	Utilization Category	A
Rated Impulse Withstand Voltage, U_{imp}	8 kV	Pollution Degree	3
Protection Function	Overload, Instantaneous, Short-Circuit Protection	Reference Standard	IEC 60947-2

Model Name				HGM400				HGM630				HGM800			
Frame		(AF)		400				630				800			
Number of Poles		(P)		2 ²⁾ , 3, 4 ¹⁾				2 ²⁾ , 3				2 ²⁾ , 3			
Rated Current, at 40 °C		(A)		250, 300, 350, 400				500, 630				700, 800			
Rated Ultimate Short-Circuit Breaking Capacity [Icu] (kA rms)															
Short-Circuit Breaking Category Code				E	S	H	L	E	S	H	L	S	H	L	
AC 660/690 V				5	8	10	14	5	8	10	14	8	10	14	
AC 480/500 V				18	35	50	65	25	45	50	65	45	50	65	
AC 440/460 V				38	50	70	85	38	50	70	85	50	70	85	
AC 380/415 V				45	65	85	100	45	65	85	100	65	85	100	
AC 220/240 V				50	75	100	125	50	75	100	125	75	100	125	
Service Breaking Capacity [Ics = % Icu]				100	100	100	100	100	100	100	100	100	100	100	
Rated Short-Circuit Making Capacity [Icm] (kA peak)															
AC 660/690 V				8	14	17	28	8	14	17	28	14	17	28	
AC 480/500 V				36	74	105	143	53	95	105	143	95	105	143	
AC 440/460 V				80	105	154	187	80	105	154	187	105	154	187	
AC 380/415 V				95	143	187	220	95	143	187	220	143	187	220	
AC 220/240 V				105	165	220	275	105	165	220	275	165	220	275	
DC 250 V (2P)				40	53	84	84	40	53	84	84	53	84	84	
Endurance [times] (Durability)															
Mechanical				4,000				2,500				2,500			
Electrical (at 460 V)				1,000				500				500			
ZCT Output Characteristics				200 mA/100 mV				200 mA/100 mV				200 mA/100 mV			
Trip Device															
Thermal	Long time [LTD]			(1.0) × In				(1.0) × In				(1.0) × In			
Magnetic	Instantaneous [INST]			10 × In				10 × In				10 × In			
Accessory															
Internal	Auxiliary Switch		AUX	●				●				●			
	Alarm Switch		ALT	●				●				●			
	Shunt Trip		SHT	●				●				●			
	Under-Voltage Trip		UVT	●				●				●			
External	Rotary Handle	Front Contact	TFG	●				●				●			
		Extension	TFH	●				●				●			
	Mechanical Open/Close Device		MOT	●				●				●			
	Mechanical Interlock		MIF	●				●				●			
	Handle Locking Device		PLD	●				●				●			
	Plug-in	TDM (LINE/LOAD)		● (3P Only)				● (3P Only)				● (3P Only)			
		TDM (LINE Only)		● (3P Only)				● (3P Only)				● (3P Only)			
		TDF (LINE Only)		-				-				-			
		TDA (1 row)		-				-				-			
		TDA (2 rows)		-				-				-			
	Cage Terminal Block		CTB	●				●				●			
	Terminal Cover		TCF	●				●				●			
Insulation Barrier		TQQ	●				●				●				
Terminal Bus Bar		TBB	●				●				●				
Installation and Dimensions															
Connection/ Installation		Front Connection		Terminal Screw				Terminal Screw, Terminal Bus Bar							
		Rear Connection		Horizontal/Vertical Cable				Horizontal/Vertical Cable							
		Plug-in		Switchgear (Line & Load, Line Only)				Switchgear (Line & Load, Line Only)							
Dimension (mm)			a (2/3/4P)		140/140/184				210/210			210/210			
			b		257				280			280			
			c		110				110			110			
Weight (kg)		2/3/4P		4/4.5/5.4				8.7/9.5			8.7/9.5				
Detailed Rating and Selection				232 Page				232 Page			232 Page				
Characteristic Curve and Appearance				151 / 169 Page				152 / 170 Page			152 / 170 Page				

※ 1) 4 Pole Arrangement : Basic specification of R-S-T-N

2) As for 2P products, only the neutral pole in the 3P product has been eliminated so the dimension is equivalent to the 3P product.



Characteristic Curve
(I - t Curve)

Trip Unit Characteristics - Thermal Magnetic

Rated Current (A) In		16	20	25	32	40	50	63	75	80	100	125
MCCB	HGM30	●	●	●	●							
	HGM50	●	●	●	●	●	●					
	HGM60	●	●	●	●	●	●	●				
	HGM100	●	●	●	●	●	●	●	●	●	●	
	HGM125	●	●	●	●	●	●	●	●	●	●	●
Moment Characteristics Ir												
Setting Value (A)	1.0 × In	16	20	25	32	40	50	63	75	80	100	125
Instantaneous Characteristics Ii												
Setting Value (A)	10 × In (Min. 400 A)			400			500	630	750	800	1,000	1,250
	Max. Non-Tripping Current (A)			320			400	504	600	640	800	1,000
	Min. Operational Current (A)			480			600	756	900	960	1,200	1,500
Neutral Pole Protection												
4P3D		Unprotected										
4P4D		-										

Rated Current (A) In		100	125	150	160	175	200	225	250	300	350	400	500	630	700	800
MCCB	HGM160	●	●	●	●											
	HGM250	●	●	●	●	●	●	●	●							
	HGM400								●	●	●	●				
	HGM630												●	●		
	HGM800														●	●
Moment Characteristics Ir																
Setting Value (A)	1.0 × In	100	125	150	160	175	200	225	250	300	350	400	500	630	700	800
Instantaneous Characteristics Ii																
Setting Value (A)	10 × In	1,000	1,250	1,500	1,600	1,750	2,000	2,250	2,500	3,000	3,500	4,000	5,000	6,300	7,000	8,000
	Max. Non-Tripping Current (A)	800	1,000	1,200	1,280	1,400	1,600	1,800	2,000	2,400	2,800	3,200	4,000	5,040	5,600	6,400
	Min. Operational Current (A)	1,200	1,500	1,800	1,920	2,100	2,400	2,700	3,000	3,600	4,200	4,800	6,000	7,560	8,400	9,600
Neutral Pole Protection																
4P3D		Unprotected														
4P4D		-														