



Adjustable HG-MCCB

Molded Case Circuit Breakers

Model Selection Table

Molded Case Circuit Breaker (HGM Type) : 125 ~ 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	Overload, Instantaneous, Short-Circuit Protection	Reference Standard	IEC 60947-2

Model Name				HGM125		HGM250	
Frame			(AF)	125		250	
Number of Poles			(P)	3, 4 ¹⁾		3, 4 ¹⁾	
Rated Current, at 40 °C			(A)	20, 25, 32, 40, 50, 63, 80, 100, 125		100, 125, 160, 200, 250	
Rated Ultimate Short-Circuit Breaking Capacity [Icu] (kA rms)	Short-Circuit Breaking Category Code			H		H	
	AC 660/690 V			8		8	
	AC 480/500 V			26		26	
	AC 415/440/460 V			38		38	
	AC 380 V			42		42	
	AC 220/240 V			85		85	
	Service Breaking Capacity [Ics = % Icu]			100		100	
Rated Short-Circuit Making Capacity [Icm] (kA peak)	AC 660/690 V			14		14	
	AC 480/500 V			55		55	
	AC 415/440/460 V			80		80	
	AC 380 V			89		89	
	AC 220/240 V			187		187	
Endurance [times] (Durability)	Mechanical			30,000		25,000	
	Electrical (at 460 V)			10,000		10,000	
Trip Device	Thermal Magnetic	Long Time [LTD]	Adjustable	(0.7 ²⁾ -0.85-1.0)×In		(0.7-0.85-1.0)×In	
		Instantaneous [INST]		20 ~ 32 A : 400 A, 40 ~ 125 A : 10×In		10×In	
Accessory	Internal	Auxiliary Switch		AUX	●	●	
		Alarm Switch		ALT	●	●	
		Shunt Trip		SHT	●	●	
		Under-Voltage Trip		UVT	●	●	
		Rotary Handle	Front Contact	TFG	●	●	
	Extension		TFH	●	●		
	External	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)	-	
			TDA (1 row)		● (3P Only)	-	
			TDA (2 rows)		● (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 Bus Bar			
		Rear Connection		Horizontal / Vertical			
		Plug-in		Switchgear (Line & Load, Line Only), Switchboard			
	Dimension (mm)	a (3/4P)		90/120		105/140	
		b		155		165	
		c		68		68	
Weight (kg)		3/4P	1.0/1.3		1.3/1.7		

※ 1) 4 Pole Arrangement : R-S-T-N

2) Except for 0.7 × In characteristic, all other specifications including accessories are compatible with standard MCCB.

Order Information

Order Code

	① HGM	② 125	③ H	④ 3P	⑤ T4	⑥ S	⑦ 00	⑧ 00	⑨ C	⑩ 00020	⑪ F	⑫ VP
① Model Name												
② Frame Size												
③ Short-Circuit Breaking Category Code												
④ No. of Poles (Category per Circuit Breaker)												
⑤ Product Category												
⑥ Connection Method												
⑦ Signal Device (AUX/ALT)												
⑧ Trip Device (SHT/UVT)												
⑨ Frequency												
⑩ Rated Current												
⑪ Trip Device Characteristics												
⑫ Adjustable Range												

① Model Name		② Frame Size		③ Short-Circuit Breaking Category Code		④ No. of Poles (Category per Circuit Breaker)	
HGM	Molded Case Circuit Breaker	125	125 AF	H	H Type	General Type of MCCB	
		250	250 AF			3P	3 Pole
						4P	4 Pole
⑤ Product Category		⑥ Connection Method		⑦ Signal Device (AUX/ALT)		⑧ Trip Device (SHT/UVT)	
MCCB : Ambient Temperature		S Front Connection		00 Not Attached		00 Not Attached	
T4	40/45 °C	P	Plug-in	10 AUX 1C		S1 SHT AC 100 - 120 V	
		F	Line Side : Plug-in Load Side : Front Connection	20 AUX 2C		S2 SHT AC 200 - 250 V	
		X	PC/CBM Not Attached	01 ALT 1C		S3 -	
				11 AUX 1C + ALT 1C		S4 SHT AC 380 - 480 V	
				21 AUX 2C + ALT 1C		S5 SHT DC 24 V	
⑨ Frequency		⑩ Rated Current		⑪ Trip Device Characteristics (Applicable To MCCB Only)			
C	50/60 Hz	00020 20 A		For Protecting Overload Short-Circuit		S6 SHT DC 100 - 120 V	
		00025 25 A		F Thermal Adjustable/ Instantaneous Fixed		S7 SHT DC 48 V	
		⋮				S8 SHT DC 60 V	
		00250 250 A				S9 SHT DC 125 V	
⑫ Adjustable Range						U1 UVT AC 100 - 120 V	
VP	$(0.7-0.85-1.0) \times I_n$					U2 UVT AC 200 - 230 V	
						U3 UVT AC 380 - 415 V	
						U4 UVT AC 440 - 480 V	
						U5 UVT DC 24 V	
						U6 UVT DC 100 - 110 V	
						U7 UVT DC 48 V	

Overview

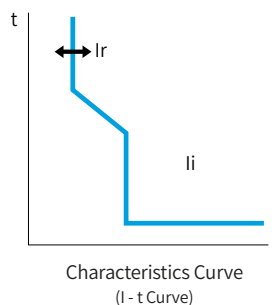
Characteristics

HGM Molded Case Circuit Breaker

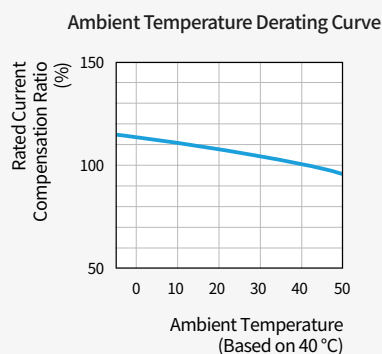
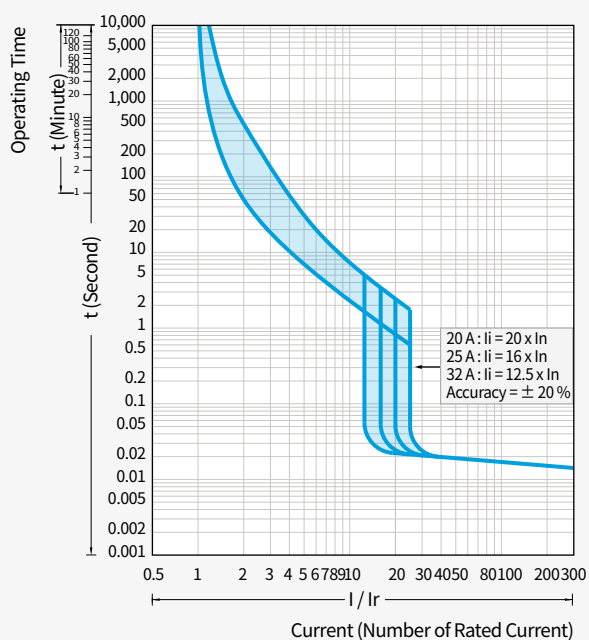
Adjustable Rated Current

The adjustable rated current provides optimal protection for load variations in customer's equipment.

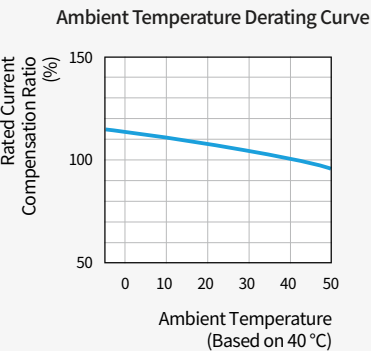
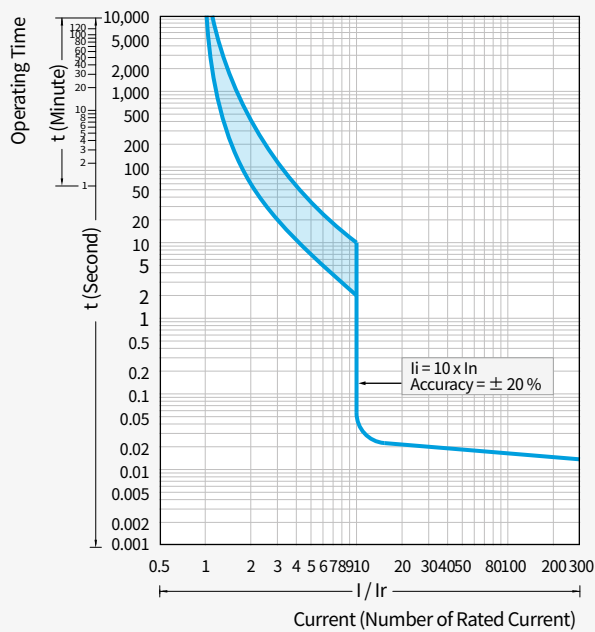
- Long Time :
3-step adjusting, 70 % - 85 % - 100 % of rated current



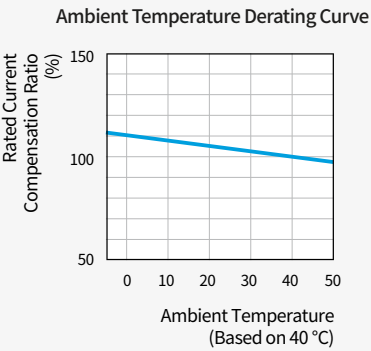
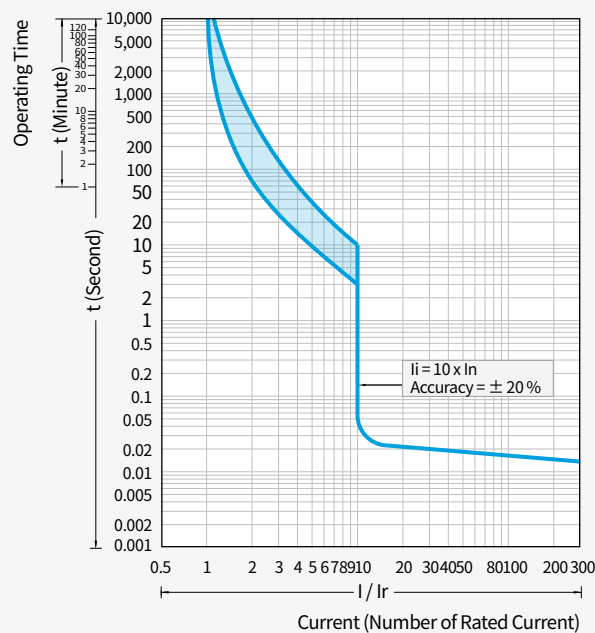
Operation Characteristic Curve | HGM125 (20~32A)



Operation Characteristic Curve | HGM125 (40~125A)



Operation Characteristic Curve | HGM250 (100~250A)



Derating Table

HGM125AF 0.7

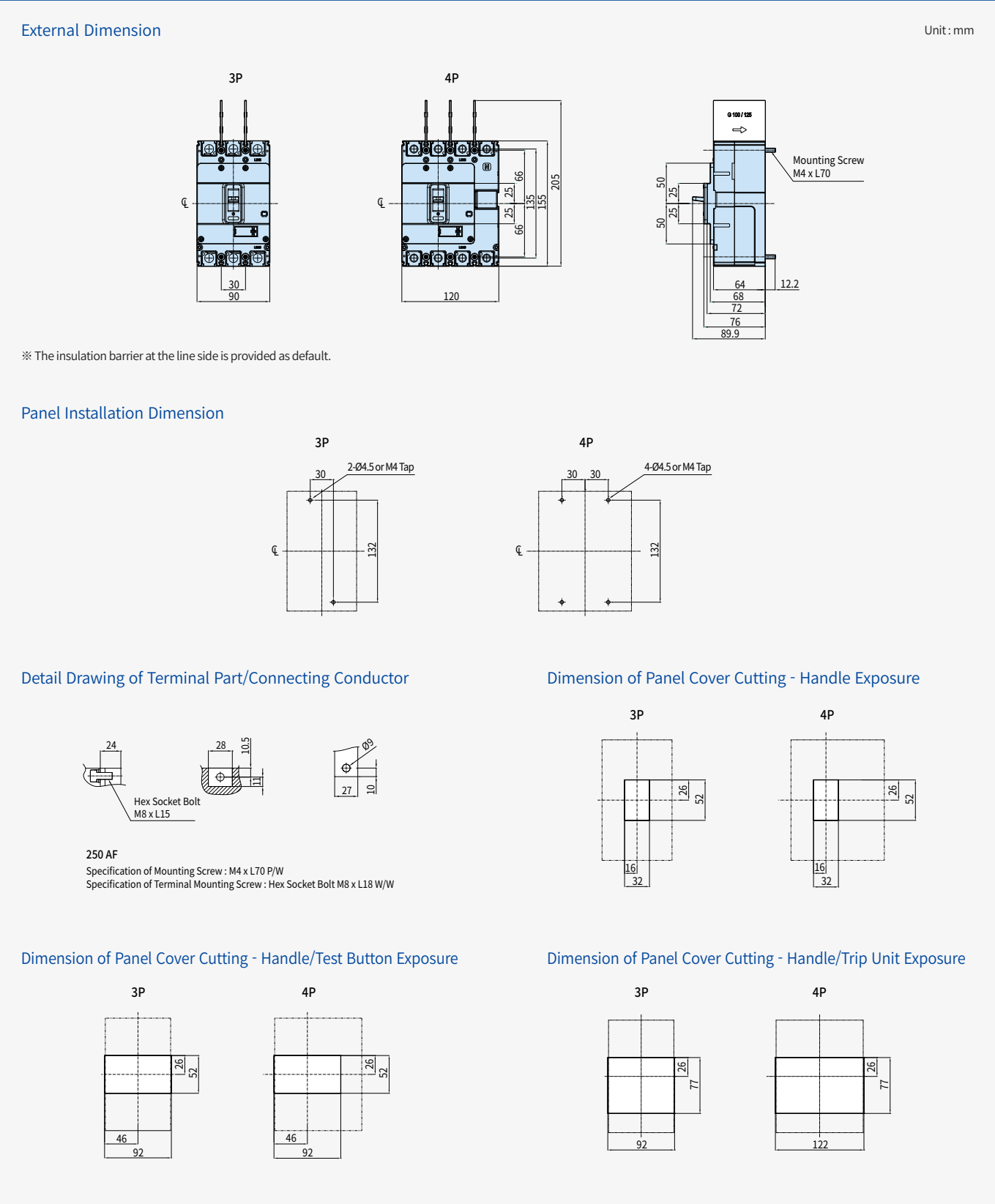
Ambient Temperature 40°C	20A	25A	32A	40A	50A	63A	80A	100A	125A	Remarks
10	22.36	27.95	35.78	44.72	55.91	70.44	89.45	111.81	139.76	
11	22.30	27.87	35.68	44.60	55.75	70.24	89.19	111.49	139.37	
12	22.23	27.79	35.57	44.47	55.58	70.03	88.93	111.16	138.96	
13	22.17	27.71	35.46	44.33	55.41	69.82	88.66	110.83	138.53	
14	22.10	27.62	35.35	44.19	55.24	69.60	88.39	110.48	138.10	
15	22.03	27.53	35.24	44.05	55.06	69.38	88.10	110.13	137.66	
16	21.95	27.44	35.13	43.91	54.88	69.15	87.82	109.77	137.21	
17	21.88	27.35	35.01	43.76	54.70	68.92	87.52	109.40	136.75	
18	21.81	27.26	34.89	43.61	54.52	68.69	87.22	109.03	136.29	
19	21.73	27.16	34.77	43.46	54.33	68.45	86.92	108.65	135.82	
20	21.65	27.07	34.65	43.31	54.14	68.21	86.62	108.27	135.34	
21	21.58	26.97	34.52	43.15	53.94	67.97	86.31	107.89	134.86	
22	21.50	26.87	34.40	43.00	53.75	67.72	86.00	107.50	134.37	
23	21.42	26.78	34.27	42.84	53.55	67.47	85.68	107.10	133.88	
24	21.34	26.68	34.15	42.68	53.35	67.23	85.37	106.71	133.38	
25	21.26	26.58	34.02	42.52	53.15	66.97	85.05	106.31	132.88	
26	21.18	26.48	33.89	42.36	52.95	66.72	84.72	105.91	132.38	
27	21.10	26.38	33.76	42.20	52.75	66.47	84.40	105.50	131.88	
28	21.02	26.27	33.63	42.04	52.55	66.21	84.07	105.09	131.37	
29	20.94	26.17	33.50	41.87	52.34	65.95	83.75	104.68	130.85	
30	20.85	26.07	33.37	41.71	52.14	65.69	83.42	104.27	130.34	
31	20.77	25.96	33.23	41.54	51.93	65.43	83.09	103.86	129.82	
32	20.69	25.86	33.10	41.38	51.72	65.17	82.75	103.44	129.30	
33	20.60	25.76	32.97	41.21	51.51	64.90	82.42	103.02	128.78	
34	20.52	25.65	32.83	41.04	51.30	64.64	82.08	102.60	128.25	
35	20.44	25.54	32.70	40.87	51.09	64.37	81.74	102.18	127.72	
36	20.35	25.44	32.56	40.70	50.87	64.10	81.40	101.75	127.18	
37	20.26	25.33	32.42	40.53	50.66	63.83	81.05	101.32	126.65	
38	20.18	25.22	32.28	40.35	50.44	63.56	80.71	100.88	126.10	
39	20.09	25.11	32.14	40.18	50.22	63.28	80.35	100.44	125.55	
40	20.00	25.00	32.00	40.00	50.00	63.00	80.00	100.00	125.00	
41	19.91	24.89	31.86	39.82	49.78	62.72	79.64	99.55	124.44	
42	19.82	24.77	31.71	39.64	49.55	62.43	79.28	99.10	123.87	
43	19.73	24.66	31.56	39.46	49.32	62.14	78.91	98.64	123.30	
44	19.63	24.54	31.42	39.27	49.09	61.85	78.54	98.17	122.72	
45	19.54	24.43	31.26	39.08	48.85	61.55	78.16	97.70	122.13	
46	19.44	24.31	31.11	38.89	48.61	61.25	77.78	97.22	121.53	
47	19.35	24.18	30.95	38.69	48.37	60.94	77.38	96.73	120.91	
48	19.25	24.06	30.79	38.49	48.12	60.63	76.98	96.23	120.29	
49	19.14	23.93	30.63	38.29	47.86	60.30	76.58	95.72	119.65	
50	19.04	23.80	30.46	38.08	47.60	59.98	76.16	95.20	119.00	

HGM250AF 0.7

Ambient Temperature 40°C	100A	125A	160A	200A	250A	Remarks
10	107.81	134.76	172.50	215.62	269.53	
11	107.55	134.44	172.08	215.10	268.88	
12	107.29	134.11	171.66	214.58	268.22	
13	107.03	133.79	171.25	214.06	267.57	
14	106.77	133.46	170.83	213.54	266.92	
15	106.51	133.14	170.41	213.02	266.27	
16	106.25	132.81	170.00	212.50	265.62	
17	105.99	132.49	169.58	211.98	264.97	
18	105.73	132.16	169.16	211.46	264.32	
19	105.47	131.83	168.75	210.93	263.67	
20	105.21	131.51	168.33	210.41	263.02	
21	104.95	131.18	167.91	209.89	262.37	
22	104.69	130.86	167.50	209.37	261.72	
23	104.43	130.53	167.08	208.85	261.06	
24	104.17	130.21	166.67	208.33	260.41	
25	103.91	129.88	166.25	207.81	259.76	
26	103.64	129.56	165.83	207.29	259.11	
27	103.38	129.23	165.42	206.77	258.46	
28	103.12	128.91	165.00	206.25	257.81	
29	102.86	128.58	164.58	205.73	257.16	
30	102.60	128.25	164.17	205.21	256.51	
31	102.34	127.93	163.75	204.69	255.86	
32	102.08	127.60	163.33	204.17	255.21	
33	101.82	127.28	162.92	203.64	254.56	
34	101.56	126.95	162.50	203.12	253.91	
35	101.30	126.63	162.08	202.60	253.25	
36	101.04	126.30	161.67	202.08	252.60	
37	100.78	125.98	161.25	201.56	251.95	
38	100.52	125.65	160.83	201.04	251.30	
39	100.26	125.33	160.42	200.52	250.65	
40	100.00	125.00	160.00	200.00	250.00	
41	99.74	124.67	159.58	199.48	249.35	
42	99.48	124.35	159.17	198.96	248.70	
43	99.22	124.02	158.75	198.44	248.05	
44	98.96	123.70	158.33	197.92	247.40	
45	98.70	123.37	157.92	197.40	246.75	
46	98.44	123.05	157.50	196.88	246.09	
47	98.18	122.72	157.08	196.36	245.44	
48	97.92	122.40	156.67	195.83	244.79	
49	97.66	122.07	156.25	195.31	244.14	
50	97.40	121.75	155.83	194.79	243.49	

Dimensions

Front Connection HGM125

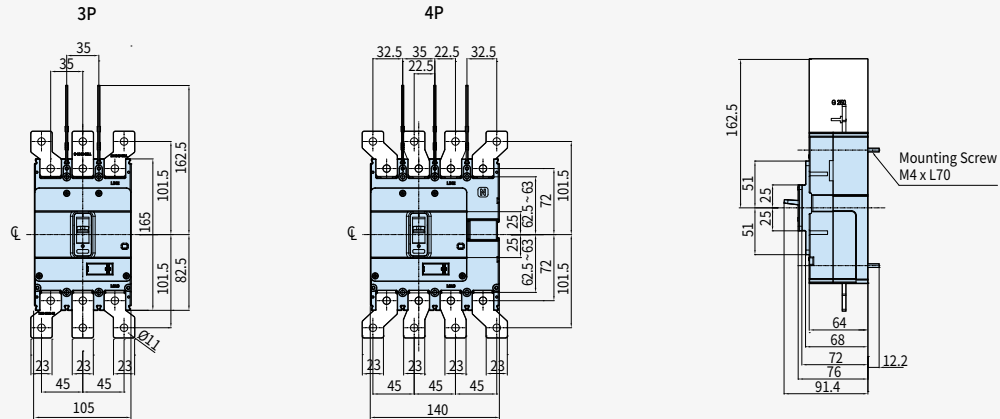


※ When installing the product in close contact, please consider tolerances for external dimensions.

Front Connection HGM250

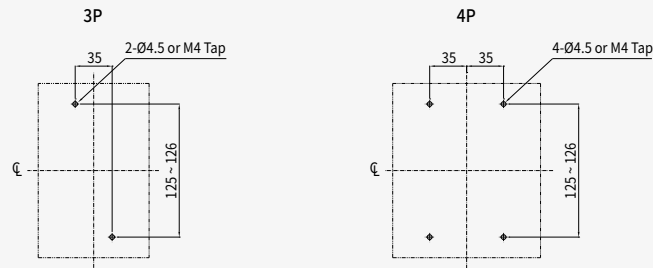
External Dimension

Unit: mm

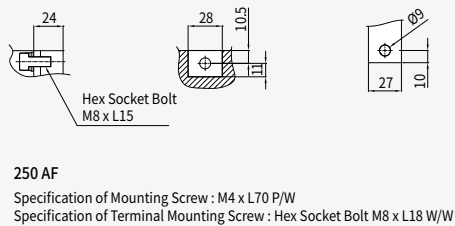


※ The insulation barrier at the line side is provided as default.

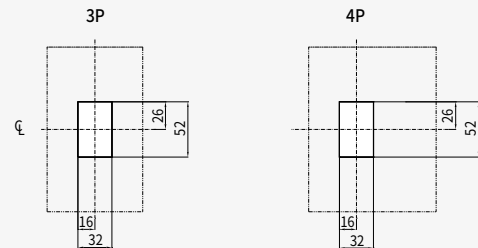
Panel Installation Dimension



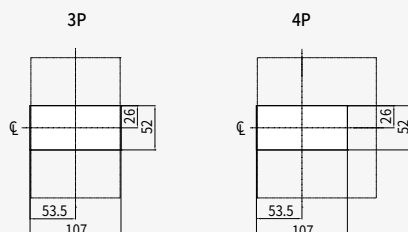
Detail Drawing of Terminal Part/Connecting Conductor



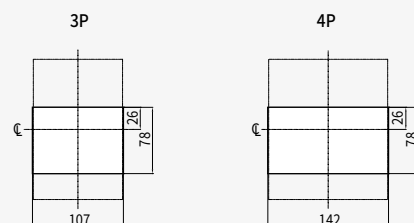
Dimension of Panel Cover Cutting - Handle Exposure



Dimension of Panel Cover Cutting - Handle/Test Button Exposure



Dimension of Panel Cover Cutting - Handle/Trip Unit Exposure



※ When installing the product in close contact, please consider tolerances for external dimensions.

Korea

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