



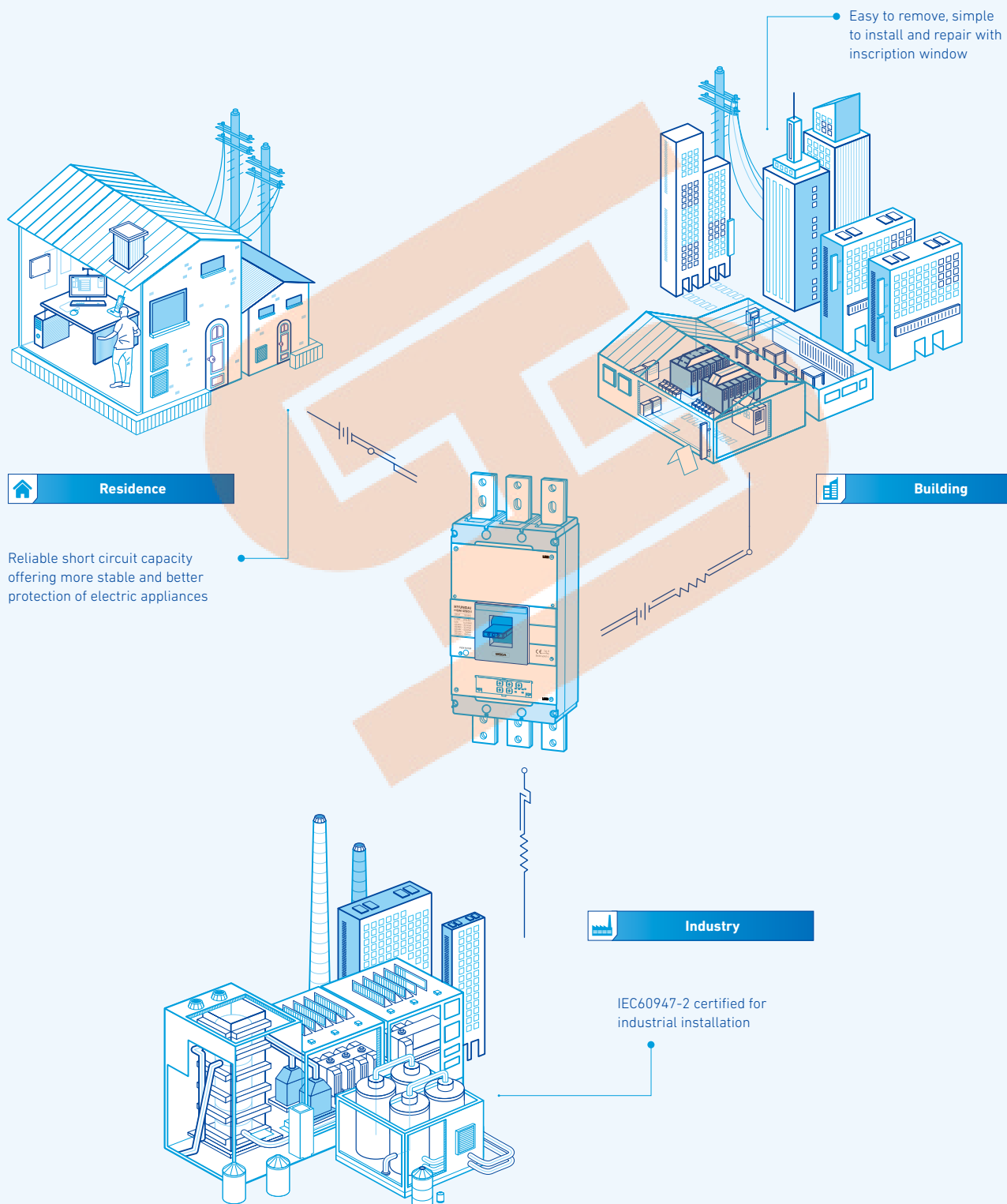
HGM1250, 1600

Molded Case Circuit Breakers

HGM1250, 1600

Molded Case Circuit Breakers

Applicable to Various Location

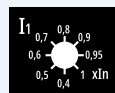
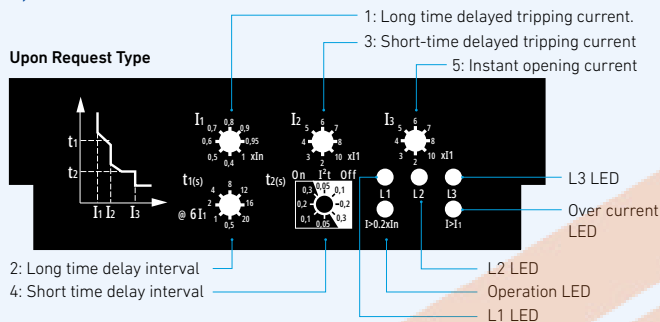


Product Features

The HGM type maximizes diversity in product selection by developing a variety of products.

In addition, the newly developed HGM1250&1600 MCCB is an electronic type, so its characteristics can be adjusted.

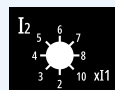
1,250 AF



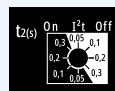
The desired value can be set between %40 and %100 of I_1 switch and I_n breaker value.



Long time delay setting range is from 0.5 to 20 seconds. As tripping on $6I_1$ is time switched, tripping formula for over current outside $6I_1$ (Tripping time) = $[(6I_1)^2 \times t_1] / I^2$



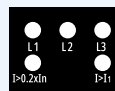
I_2 switches may be adjusted in 2 to 10 times the current I_1



I^2t "OFF": When larger current pass over circuit breaker other than the set I_2 , trips the circuit breaker at the end of fixed time delays.
 I^2t "ON": There are time delay in proportion with $(8 \times I_1)^2$ at the "ON" section. Card detects period of time in inverse proportion with the square root of the tripping current. (Tripping time) = $[(8 \times I_1)^2 / I^2] \times t_2$

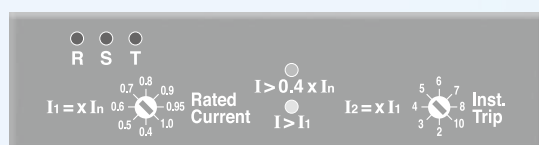


I_3 switch can be adjusted between 2 and 10 times the current I_1 . There is no any delay function.



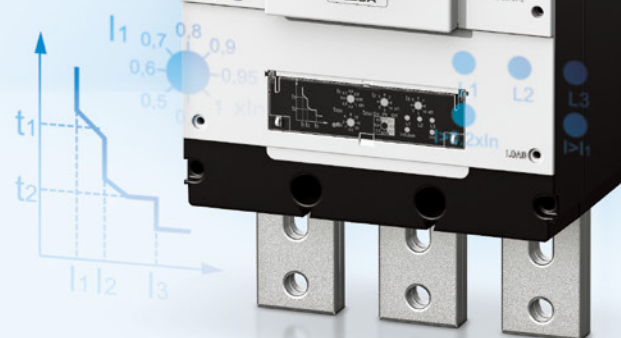
L1, L2, L3; Indicates on which phase the over current passes through.
 $I > 0.2 \times I_n$; Indicates that the card is operational and current passes through the circuit breaker.
 $I > I_1$; Indicates that current passes through the circuit breaker and if the situation does not return to normal, in accordance with release curve the circuit breaker will trip after a while.

1,600 AF



Protection characteristics and current setting

Rated (CT) current [In] (A)		1,600								
LTD	Rated current setting [I ₁] (A)	In x	0.4	0.5	0.6	0.7	0.8	0.9	0.95	1.0
			640	800	960	1,120	1,250	1,440	1,520	1,600
INST	Instantaneous current setting [I ₂] (A)		I ₁ × 2-3-4-5-6-7-8-10							
LED	Red light		I > 0 A							
indication	Green light		I > 0.4 × In							
	Yellow light		I > I ₁							



Model Selection Table

Things in common

Rated insulation voltage, U_i	1000 V
Rated operational voltage, U_e	690 V
Impulse withstand voltage, U_{imp}	8 kV
Protection function	Overload, short-circuit and instantaneous protection

Things in common

Suitability for isolation	Yes
Utilization category	B
Pollution degree	3
Reference standard	IEC60947-2

Model		HGM1000	HGM1250	HGM1600
Frame	(AF)	1,000	1,250	1,600
Pole	(P)	3,4 ¹⁾	3,4 ¹⁾	3
Rated current, at 40 °C, Electric	(A)	1,000	1,000/1,250	1,600
Rated short-circuit breaking capacity [I _{cs}] (kA rms)	Recognition code for order	S	S	S
	AC660/690 V	25	25	25
	AC480/500 V	35	35	35
	AC440/460 V	45	45	45
	AC380/415 V	70	70	70
Service breaking capacity [I _{cs}] (kA rms)	AC220/240 V	100	100	100
	AC660/690 V	12.5	12.5	17.5
	AC480/500 V	17.5	17.5	24.5
	AC440/460 V	22.5	22.5	31.5
	AC380/415 V	65	65	50
Rated short-time withstand current [I _{cs}] (kA) 1s	AC220/240 V	50	50	70
	1s	15	15	12*In
Endurance (Durability)	Mechanical	10,000	10,000	10,000
	Electrical	3,000	3,000	3,000
Trip Device		●	●	●
Electronic	Long time [LT, I _t]	0.4-0.5-0.6-0.7-0.8-0.9-0.95-1×I _n	0.4-0.5-0.6-0.7-0.8-0.9-0.95-1×I _n	0.4-0.5-0.6-0.7-0.8-0.9-0.95-1×I _n
	Short time [STD, I _t]	2-3-4-5-6-7-8-10×I _t	2-3-4-5-6-7-8-10×I _t	2-3-4-5-6-7-8-10×I _t
	Instantaneous [INST, I _t]	2-3-4-5-6-7-8-10×I _t	2-3-4-5-6-7-8-10×I _t	2-3-4-5-6-7-8-10×I _t
Accessory				
Internal	Auxiliary switch	AUX	●	●
	Alarm switch	ALT	●	-
	Shunt trip	SHT	●	●
	Undervoltage trip	UVT	●	●
External	Rotary handle	Extended TFH	●	-
	Motor operator	MOT	●	●
	Mechanical interlock	MIF	●	-
	Lock Mechanism with Key		●	-
	Draw-out	-	-	-
	TDM(LINE/LOAD)	-	-	-
	Plug-in	-	-	-
	TDM(LINE Only)	-	-	-
Terminal	Cage terminal block	CTB	●	-
	Insulation terminal cover	TCF	●	●
	Insulation barrier	TQQ	Standard	Standard
	Terminal extensions	TBB	Standard	Standard
Installation and dimensions				
Connection/Installation	Front connection	Terminal busbar	Terminal busbar	Terminal busbar
	Rear connection	-	-	-
	Plug-in	-	-	-
Dimensions (mm)	a (3/4P)	210/280	210/280	210
	b	370	370	370
	c	124	124	155

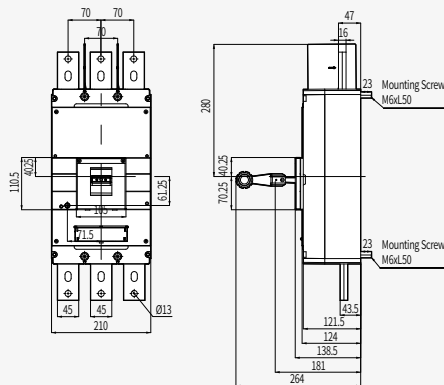
※ 1) 4 pole arrangement : Basic specification is N-R-S-T

Dimensions

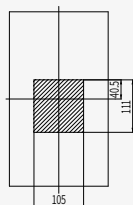
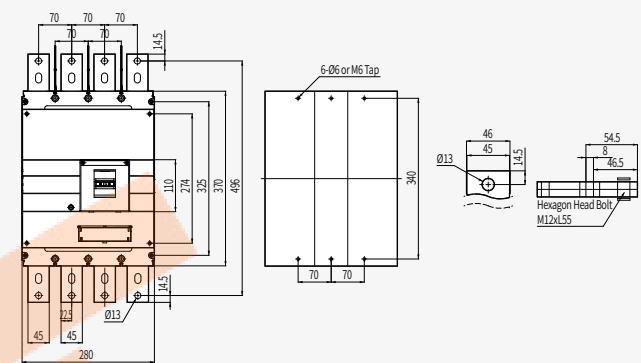
HGM1000/1250

Unit : mm

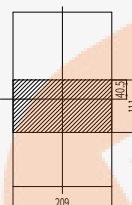
3P



4P



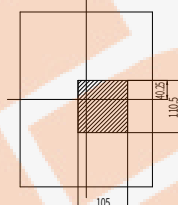
Dimension of Panel Cover Cutting - Handle Exposure



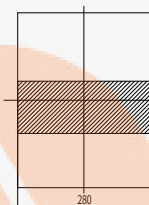
Dimension of Panel Cover Cutting - Handle Test Button Exposure



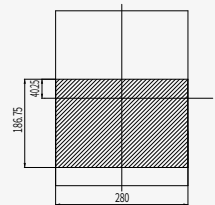
Dimension of Panel Cover Cutting - Handle Trip Unit Exposure



Dimension of Panel Cover Cutting - Handle Exposure



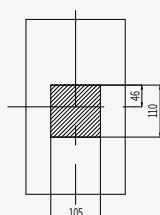
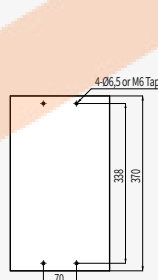
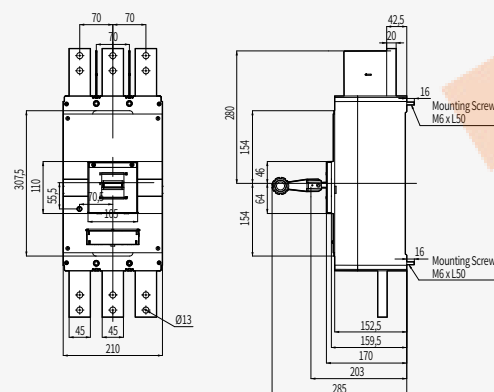
Dimension of Panel Cover Cutting - Handle Test Button Exposure



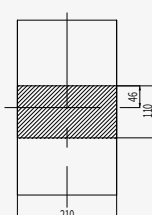
Dimension of Panel Cover Cutting - Handle Trip Unit Exposure

HGM1600

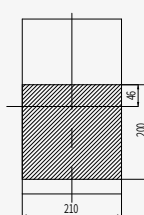
Unit : mm



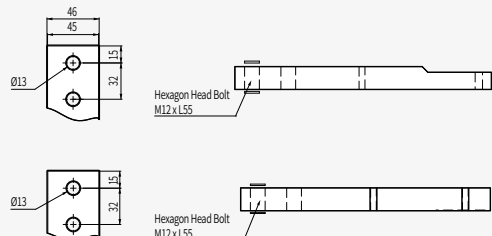
Dimension of Panel Cover Cutting - Handle Exposure



Dimension of Panel Cover Cutting - Handle Test Button Exposure



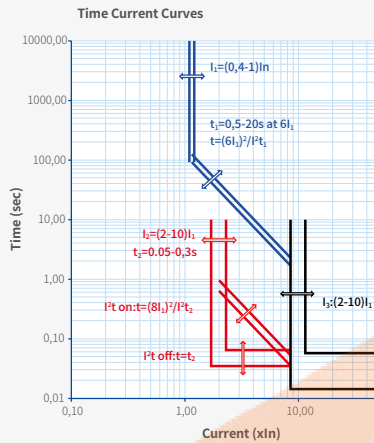
Dimension of Panel Cover Cutting - Handle Trip Unit Exposure



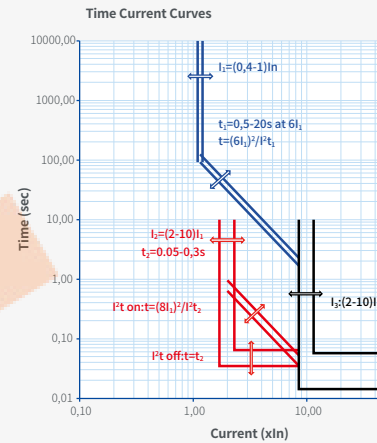
Characteristic Curve

Operation Characteristic Curve

HGM1000/1250

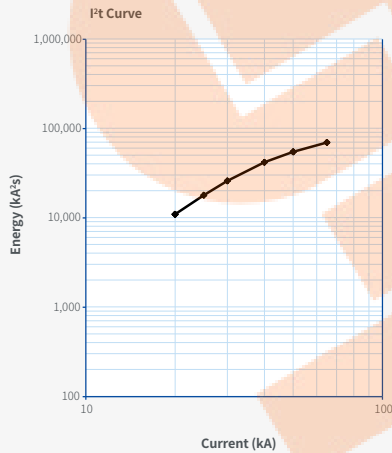


HGM1600

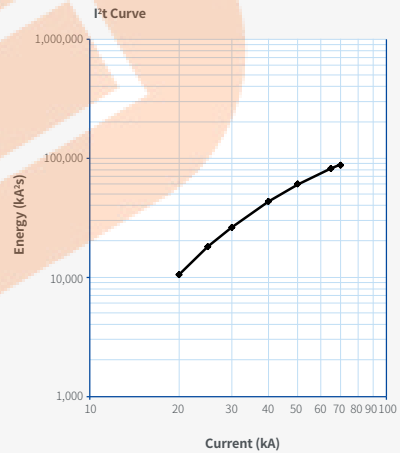


Energy-Limiting Characteristic Curve

HGM1000/1250

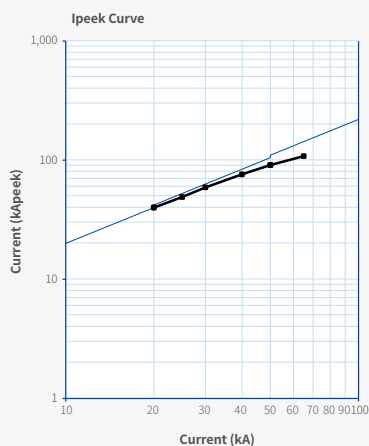


HGM1600

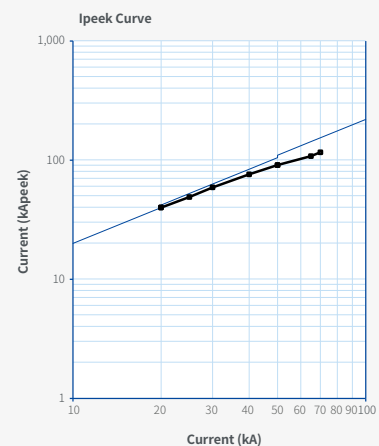


Current-Limiting Characteristic Curve

HGM1000/1250



HGM1600



Order Information

Ordering guidelines

	① HGM	② 1250	③ S	④ 3P	⑤ EN	⑥ BS	⑦ 00	⑧ 00	⑨ C	⑩ 01250	⑪
① Type											
② Frame											
③ Short-Circuit Breaking Capacity											
④ Number of Poles											
⑤ Product Description											
⑥ Mounting											
⑦ Auxiliary Contact & Alarm Switch(AUX/ALT)											
⑧ Shunt Trip & Under Voltage Trip Devices(SHT/UVT)											
⑨ Frequency											
⑩ Rated Current											
⑪ Trip Device											

① Type <table><tr><td>HGM</td><td>MCCB</td></tr></table>	HGM	MCCB	④ Number of Poles <table><tr><td>3P</td><td>3 pole</td></tr><tr><td>4PN²⁾</td><td>4 pole(NRST)</td></tr></table>	3P	3 pole	4PN ²⁾	4 pole(NRST)	⑦ Auxiliary Contact & Alarm Switch(AUX/ALT) <table><tr><td>00</td><td>Without</td></tr></table>	00	Without	⑩ Rated Current <table><tr><td>01000</td><td>1,000 A</td></tr><tr><td>01250</td><td>1,250 A</td></tr><tr><td>01600</td><td>1,600 A</td></tr></table>	01000	1,000 A	01250	1,250 A	01600	1,600 A		
HGM	MCCB																		
3P	3 pole																		
4PN ²⁾	4 pole(NRST)																		
00	Without																		
01000	1,000 A																		
01250	1,250 A																		
01600	1,600 A																		
② Frame <table><tr><td>1000</td><td>1,000 AF</td></tr><tr><td>1250</td><td>1,250 AF</td></tr><tr><td>1600</td><td>1,600 AF</td></tr></table>	1000	1,000 AF	1250	1,250 AF	1600	1,600 AF	⑤ Product Description <table><tr><td>MCCB</td><td>Electronic</td></tr><tr><td>EN</td><td>Normal</td></tr></table>	MCCB	Electronic	EN	Normal	⑧ Shunt Trip & Under Voltage Trip Devices(SHT/UVT) <table><tr><td>00</td><td>Without</td></tr></table>	00	Without	⑪ Trip Device <table><tr><td colspan="2">Electronic</td></tr><tr><td>-</td><td>ETU</td></tr></table>	Electronic		-	ETU
1000	1,000 AF																		
1250	1,250 AF																		
1600	1,600 AF																		
MCCB	Electronic																		
EN	Normal																		
00	Without																		
Electronic																			
-	ETU																		
③ Short-Circuit Breaking Capacity¹⁾ <table><tr><td>S</td><td>70 kA</td></tr></table>	S	70 kA	⑥ Mounting <table><tr><td>BS³⁾</td><td>Terminal Bus Bar (Straight Type)</td></tr></table>	BS ³⁾	Terminal Bus Bar (Straight Type)	⑨ Frequency <table><tr><td>C</td><td>50/60 Hz in common</td></tr></table>	C	50/60 Hz in common											
S	70 kA																		
BS ³⁾	Terminal Bus Bar (Straight Type)																		
C	50/60 Hz in common																		

※ 1) In case that the rated voltage is AC380/415 V
 2) In case of 4P, The N phase is located on the left.(NRST)
 3) A straight busbar is provided as standard.

HYUNDAI ELECTRIC

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