



HGM1250, 1600

Molded Case Circuit Breakers

HGM1250, 1600

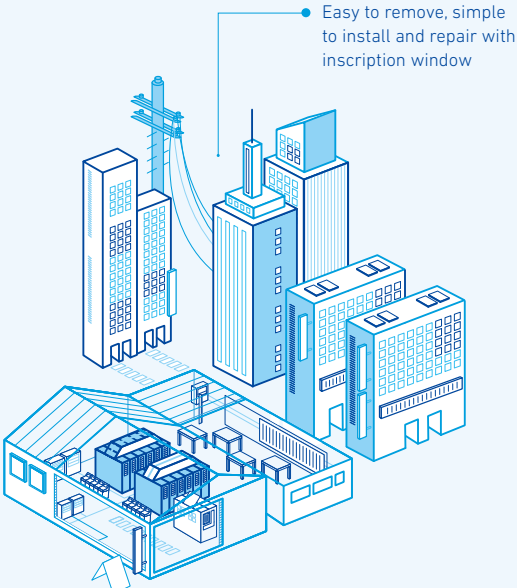
Molded Case Circuit Breakers

Applicable to Various Location



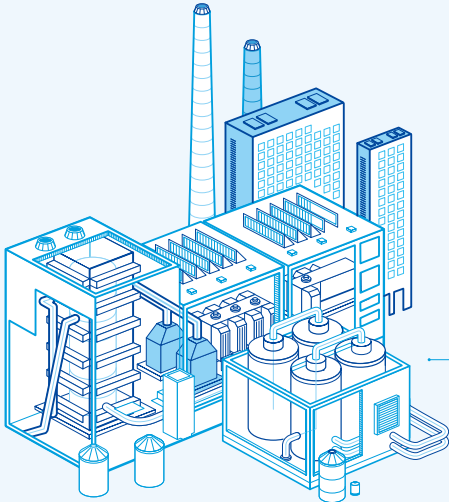
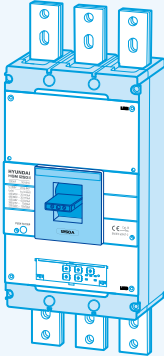
 **Residence**

Reliable short circuit capacity offering more stable and better protection of electric appliances



 **Building**

Easy to remove, simple to install and repair with inscription window



 **Industry**

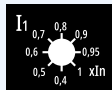
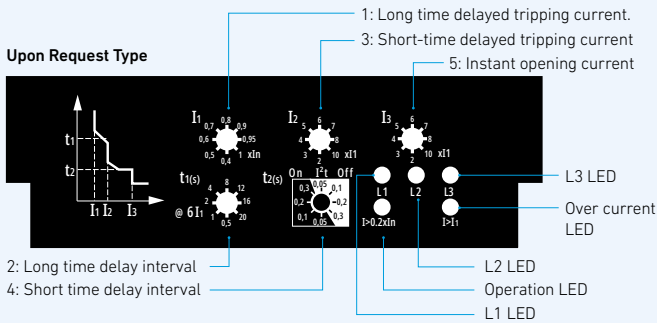
IEC60947-2 certified for industrial installation

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.

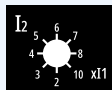
1,250 AF



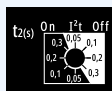
- The desired value can be set between %40 and %100 of I_1 switch and I_n breaker value.



- Long time delay setting range is from 0.5 to 20 seconds.
 As tripping on δI_1 , is time switched, tripping formula for over current outside δI_1 (Tripping time) = $[(\delta I_1)^2 \times t_1] / I^2$



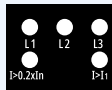
- I_2 switches may be adjusted in 2 to 10 times the current I_1



- $I^2 t$ "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.
 - $I^2 t$ "ON"; There are time delay in proportion with $(8xI_1)^2$ at the "ON" section. Card detects period of time in inverse proportion with the square root of the tripping current. (Tripping time) = $[(8xI_1)^2 / I^2] \times t_2$



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

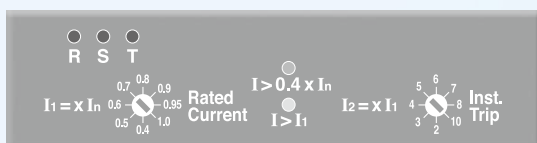


- L1, L2, L3; Indicates on which phase the over current passes through.

- $I > 0.2xI_n$; 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)	$I_n \times$	0.4	0.5	0.6	0.7	0.8	0.9	0.95	1.0	
INST	Instantaneous current setting [I_1] (A)		640	800	960	1,120	1,250	1,440	1,520	1,600	
LED indication	Red light		$I > 0 \text{ A}$								
	Green light		$I > 0.4 \times I_n$								
	Yellow light		$I > I_1$								



Model Selection Table

Things in common

Rated insulation voltage, Ui	1000 V
Rated operational voltage, Ue	690 V
Impulse withstand voltage, Uimp	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 [Icu] (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 [Ics] (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[Icw] (kA) 1s	AC220/240 V	50	50	70
		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 _l]	0.4-0.5-0.6-0.7-0.8-0.9-0.95-1×In	0.4-0.5-0.6-0.7-0.8-0.9-0.95-1×In	0.4-0.5-0.6-0.7-0.8-0.9-0.95-1×In
	Short time [STD, I _s]	2-3-4-5-6-7-8-10×I _n	2-3-4-5-6-7-8-10×I _n	2-3-4-5-6-7-8-10×I _n
	Instantaneous [INST, I _i]	2-3-4-5-6-7-8-10×I _n	2-3-4-5-6-7-8-10×I _n	2-3-4-5-6-7-8-10×I _n
Accessory				
Internal	Auxiliary switch AUX	●	●	●
	Alarm switch ALT	●	●	-
	Shunt trip SHT	●	●	●
	Undervoltage trip UVT	●	●	●
	Rotary handle Extended TFH	●	●	-
	Motor operator MOT	●	●	●
	Mechanical interlock MIF	●	●	-
	Lock Mechanism with Key	●	●	-
External	Draw-out	-	-	-
	Plug-in TDM(LINE/LOAD)	-	-	-
		TDM(LINE Only)	-	-
	Cage terminal block CTB	●	●	-
	Insulation terminal cover TCF	●	●	●
	Insulation barrier TQQ	Standard	Standard	Standard
	Terminal extensions TBB	Standard	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

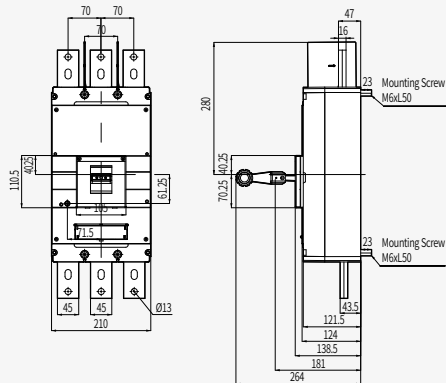
※ 1) 4 pole arrangement : Basic specification is N-R-S-T

Dimensions

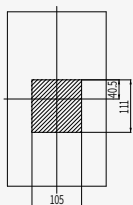
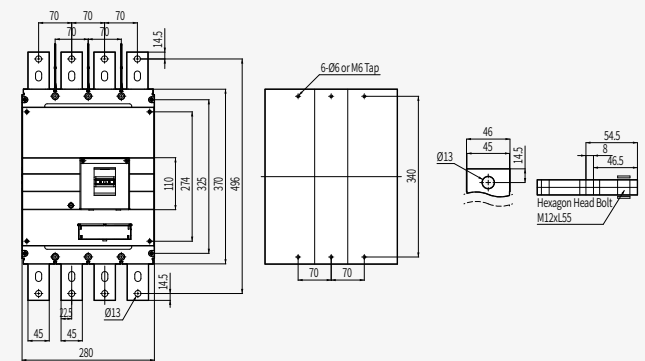
HGM1000/1250

Unit : mm

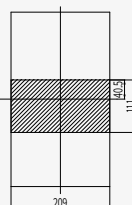
3P



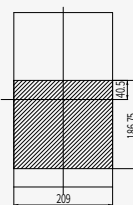
4P



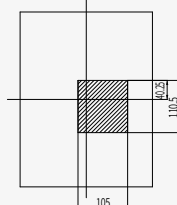
Dimension of Panel Cover Cutting - Handle Exposure



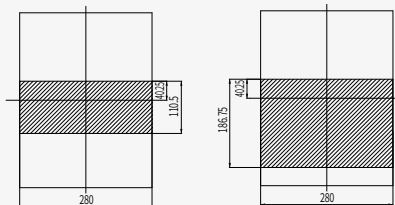
Dimension of Panel Cover Cutting - Handle Test Button Exposure



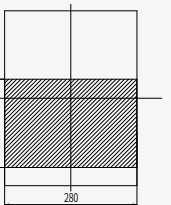
Dimension of Panel Cover Cutting - Handle Trip Unit Exposure



Dimension of Panel Cover Cutting - Handle Exposure



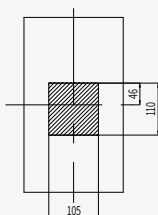
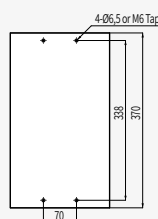
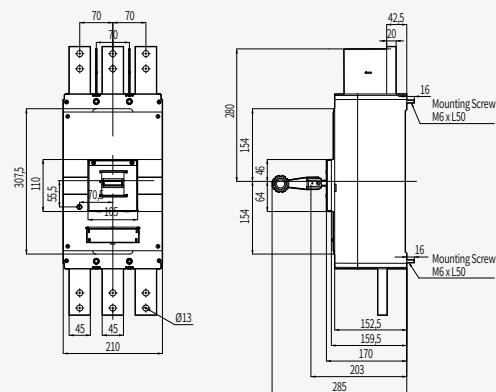
Dimension of Panel Cover Cutting - Handle Test Button Exposure



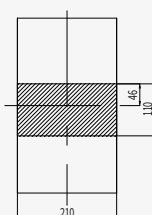
Dimension of Panel Cover Cutting - Handle Trip Unit Exposure

HGM1600

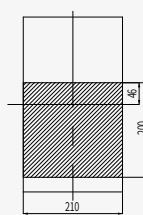
Unit : mm



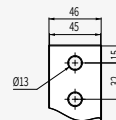
Dimension of Panel Cover Cutting - Handle Exposure



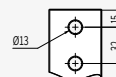
Dimension of Panel Cover Cutting - Handle Test Button Exposure



Dimension of Panel Cover Cutting - Handle Trip Unit Exposure



Hexagon Head Bolt M12 x L55

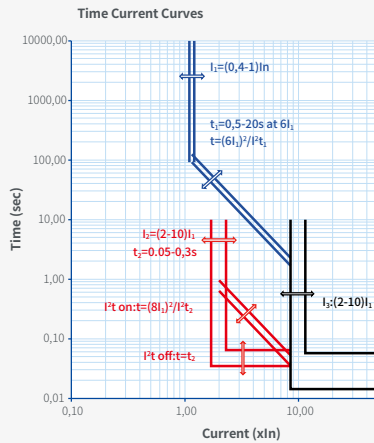


Hexagon Head Bolt M12 x L55

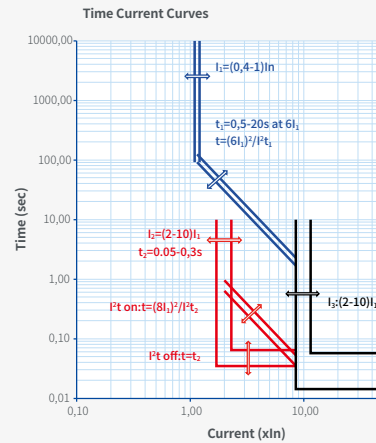
Characteristic Curve

Operation Characteristic Curve

HGM1000/1250

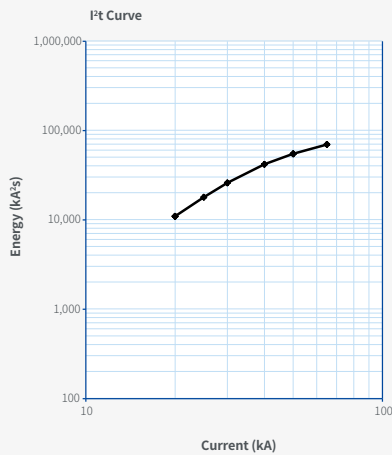


HGM1600

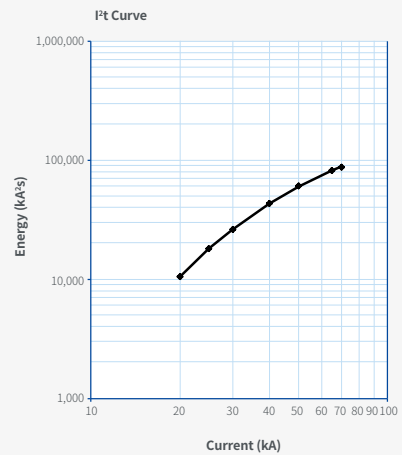


Energy-Limiting Characteristic Curve

HGM1000/1250

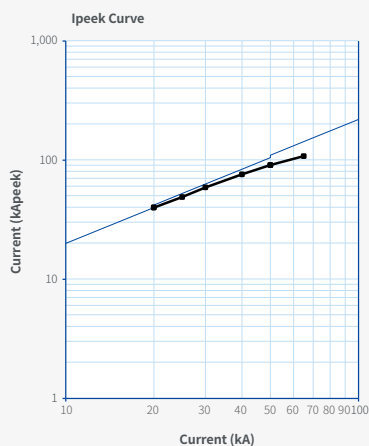


HGM1600

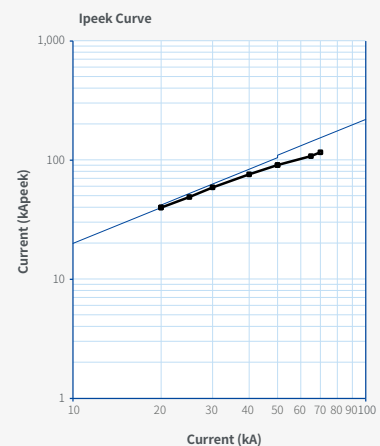


Current-Limiting Characteristic Curve

HGM1000/1250

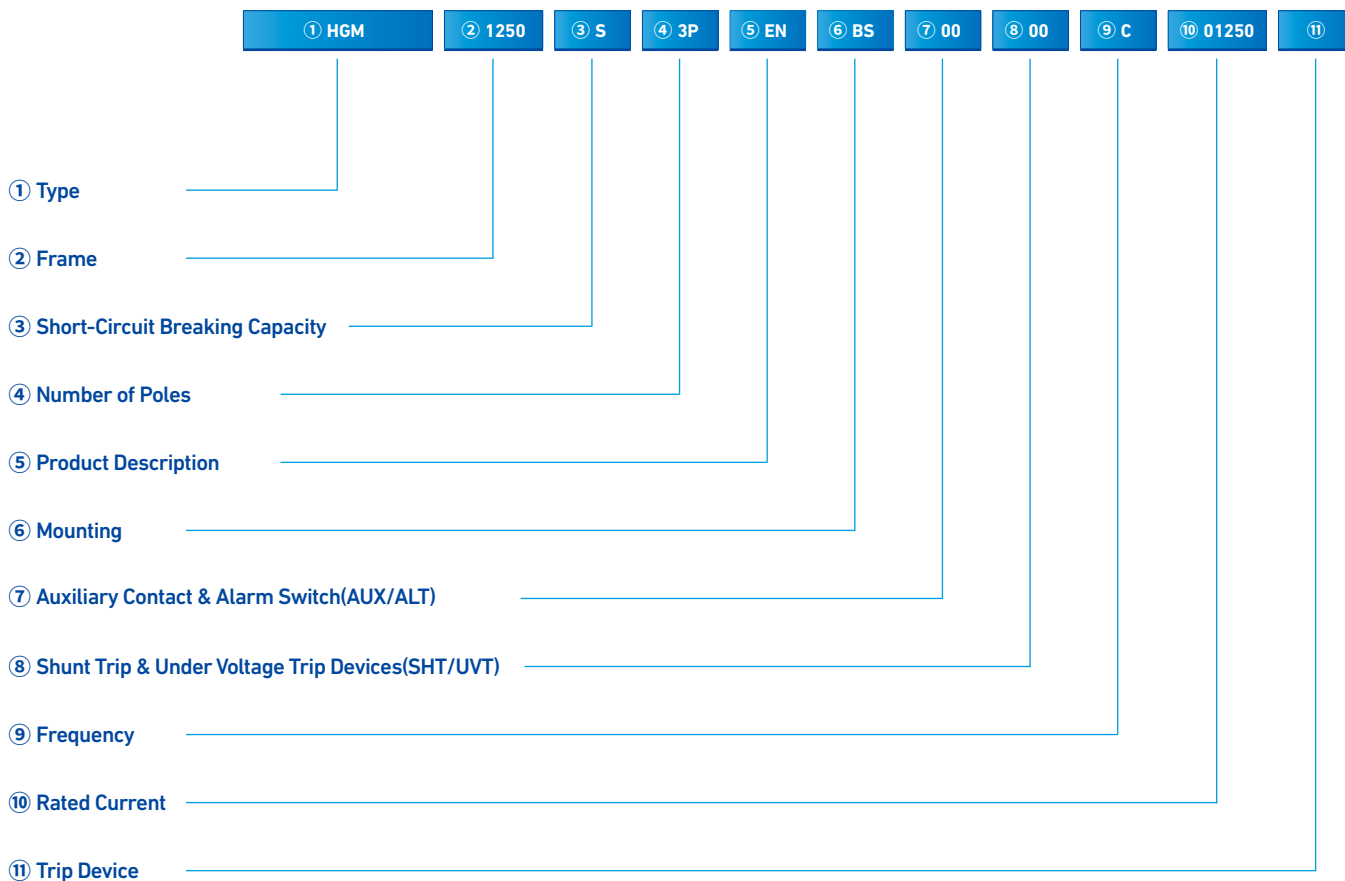


HGM1600



Order Information

Ordering guidelines



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