HDM6L Series

Earth-Leakage Circuit Breaker





The Righ









t Choice!









Applicable. Available. Accountable.



Delixi Electric NOW HIMEL

We constantly strive to deliver more value to our customers. This is why we have migrated Delixi Electric to Himel – an international brand which is driven by three core values: applicable, available, and accountable.

As Himel, we are able to establish a network of local teams and partners to better understand and serve our customers' needs. We regularly work to increase the volume of our stock at the local level and make sure our products are readily available whenever needed.

Himel sets out to meet its customers' evolving needs with the introduction of the 6 Series, a new line of low-voltage products that features uniform design and improved reliability. Under the name of Himel, we will continually expand our product portfolio through collaborative research and development with new industrial partners.

APPLICABLE AVAILABLE ACCOUNTABLE

Himel is: APPLICABLE AVAILABLE ACCOUNTABLE

ABOUT US

imel is an international manufacturer and provider of low-voltage electrical products that successfully combines global expertise with local knowledge. We focus on true partnership with customers and offer products that meet practical needs and ensure relevant compatibility for common usage. We work to be always ready for our customers and react quickly to their needs. We are accountable and committed to maintaining sustainable, long-term relationships.

At Himel we believe that functionality and availability do not have to come at a high cost. We ensure that our simple and solid products are always where they are needed. We guarantee complete originality of all our components and promote safe installation and usage.

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Impact of High Temperature on Tipping Release Performance Impact of Altitude on Tipping Release Performance

3-Pole (W) Total Power Loss

Tripping Release Curve



Standard: IEC 60947-2

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Co	oding	Sys	tem					
name	Frame size	B.C	Rate Current	Pole	Accessory	Voltage of Accessory	Residual current	Installation method
HDM6L	100	L	100	3P	M	1	F	R
	\downarrow	1	\downarrow	1	↓	↓	1	1
	100:100AF	L:L type	40,50, 63,80,100	3:3P		X:AC400V;NO Accessory voltage; Leakage module voltage AC400V	Y:300/100/500mA (100AF, 250AF)	F:fix-type in front of the board
	250:250AF	M:M type	100.125. 160.180.200. 225.250	A:4P A Type N phase is not equipped with overcurrent trip component and N phase is always connected. The N phase does not open/close with the other 3 poles.		N:AC230V;intenal accessory AC230V; Leakage module AC230V	T:100/300/500mA (100AF, 250AF, 400AF, 630AF)	R:fix-type behind the board
	400:400AF		350.400	B: 4P B Type N phase is not equipped with overcurrent trip component, and N phase opens/closes with the other 3 poles. (N phase closes first and then opens)	O:OF	D:DC24V	F:300/500/1000mA (400AF, 630AF)	P:insert-type behind the board
	630:630AF		400.500.630	C: 4P C Type N phase is equipped with overcurrent trip component, and N phase always opens/closes with the other 3 poles . (N phase closes first and then opens) D: 4P D Type		1:Internal accessory AC400V; Leakage module AC230V		
				D: 4P D Type N phase is equipped with overcurrent trip component and N phase is always connected. The N phase does not open/close with the other 3 poles	F:OF+OF	2: Internal accessory AC230V;Leakage module AC400V		
					S:SD	3:Internal accessory DC24V;Leakage module AC400V		
					D:OF+S	4:Internal accessory DC24V;Leakage module AC230V		
					U:Leakage alarm without action module			
					I:Leakage alarm with action module			
					A:MX+Leakage alarm without action module			
					1:MX+Leakage alarm with action module B:OF+Leakage alarm without action module			
					2:OF+Leakage alarm with action module			
					C:MN+Leakage alarm without action module			
					3:MN+Leakage alarm with action module			
					E:OF+OF+Leakage alarm without action module			
					4:OF+OF+Leakage alarm with action module			
					G:SD+Leakage alarm without action module			
					5:SD+Leakage alarm with action module H:OF+SD+Leakage alarm without action module			
					6:OF+SD+Leakage alarm with action module			
					U.O. TOD LEakage alan II Will action module			

Order Information				
Гуре	Pole	In A	L-type	M-type
HDM6L-100	3	40	HDM6L100L403XX*F	HDM6L100M403XX*F
		50	HDM6L100L503XX*F	HDM6L100M503XX*F
		63	HDM6L100L633XX*F	HDM6L100M633XX*F
10:0:0		80	HDM6L100L803XX*F	HDM6L100M803XX*F
		100	HDM6L100LI003XX*F	HDM6L100M1003XX*F
2 A S S S S S S S S S S S S S S S S S S	4	40	HDM6L100L404XX*F	HDM6L100M404XX*F
		50	HDM6L100L504XX*F	HDM6L100M504XX*F
«		63	HDM6L100L634XX*F	HDM6L100M634XX*F
703035	•	80	HDM6L100L804XX*F	HDM6L100M804XX*F
		100	HDM6L100Ll004XX*F	HDM6L100M1004XX*F
DM6L-250	3	100	HDM6L250L1003XX*F	HDM6L250M1003XX*F
		125	HDM6L250L1253XX*F	HDM6L250M1253XX*F
		160	HDM6L250L1603XX*F	HDM6L250M1603XX*F
		180	HDM6L250L1803XX*F	HDM6L250M1803XX*F
		200	HDM6L250L2003XX*F	HDM6L250M2003XX*F
		225	HDM6L250L2253XX*F	HDM6L250M2253XX*F
		250	HDM6L250L2503XX*F	HDM6L250M2503XX*F
	4	100	HDM6L250L1004XX*F	HDM6L250M1004XX*F
		125	HDM6L250L1254XX*F	HDM6L250M1254XX*F
		160	HDM6L250L1604XX*F	HDM6L250M1604XX*F
10000		180	HDM6L250L1804XX*F	HDM6L250M1804XX*F
		200	HDM6L250L2004XX*F	HDM6L250M2004XX*F
		225	HDM6L250L2254XX*F	HDM6L250M2254XX*F
		250	HDM6L250L2504XX*F	HDM6L250M2504XX*F
DM6L-400	3	200	HDM6L400L2003XX*F	HDM6L400M2003XX*F
DIVIOL-400	-	225	HDM6L400L2253XX*F	HDM6L400M2253XX*F
		250	HDM6L400L2503XX*F	HDM6L400M2503XX*F
		315	HDM6L400L3153XX*F	HDM6L400M3153XX*F
		350	HDM6L400L3503XX*F	HDM6L400M3503XX*F
1 Jan 1		400	HDM6L400L4003XX*F	HDM6L400M4003XX*F
	4	200	HDM6L400L2004XX*F	HDM6L400M2004XX*F
	<u> </u>	225	HDM6L400L2254XX*F	HDM6L400M2254XX*F
TOTAL STATE		250	HDM6L400L2504XX*F	HDM6L400M2504XX*F
09:3:3:		315	HDM6L400L3154XX*F	HDM6L400M3154XX*F
		350	HDM6L400L3504XX*F	HDM6L400M3504XX*F
		400	HDM6L400L4004XX*F	HDM6L400M4004XX*F
DMCL 620	3	400	HDM6L630L4003XX*F	HDM6L630M4003XX*F
DM6L-630	3	500	HDM6L630L5003XX*F	HDM6L630M5003XX*F
	<u> </u>	630	HDM6L630L6303XX*F	HDM6L630M6303XX*F
	4	400	HDM6L630L4004XX*F	HDM6L630M4004XX*F
	35	500	HDM6L630L5004XX*F	HDM6L630M5004XX*F
00000		360	HDM6L630L6304XX*F	HDM6L630M6304XX*F







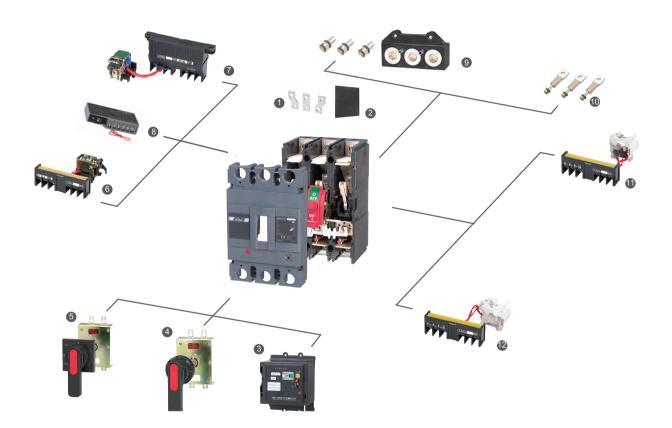


Technical Date																
Thermo-adjustable																
Basic Information(IEC60947-2)																
Frame Size AF		10					50		400				630			
Number of Poles	3	Р	4	P	3	P	4	Р	3	P	4	P	3	Р	4	Р
Breaking Capacity Level	L	М	L	М	L	М	L	М	L	М	L	М	L	М	L	М
Rated Ultimate Short—circuit Breaking Capacity Icu(kA rms)	35	50	35	50	35	50	35	50	50	70	50	70	50	70	50	70
Rated Service Short-circuit Breaking Capacity Ics(kA rms)	22	30	22	30	22	30	22	30	30	40	30	40	30	40	30	40
Mechanical Endurance Electrical Endurance On-0ff Cycle		85				70					000				000	
Tripping Unit		15	00			10	00			10	000			10	000	
Rated Current(A) In	40	/50/63	3/80/1	00		0/125/ 200/22			20		/250/3 /400	15/		400/5	00/630)
Accessory	,												,			
Indication Accessories																
OF			•		-			•			•					
SD			•		-								İ			
Control Accessories																
MX(AC400,230V,DC220V)			•			•	•							I		
MN(AC400,230V)			•			1	•			ı				İ		
Extended Rotary Handle(Round and Square)										ı				ļ		
AC Motor Mechanism(AC400,230V)						•	•			ı				1		
Mounting&Connection																
Fixed,Rear Connection			•			1	•			ı				I		
Plug-in,Rear Connection			•													
Connection																
Spreader																
Protection																
Phase Barrier			•				•			ı				ı		
Installation Information		See P	age 9		5	See Pa	age 10)		See P	age 1	1		See P	age 12	2

[&]quot;■" shows it has this option

Basic Technical Data

- Rated Insulation Voltage Ui,AC 800V
- Rated Impulse Withstand Voltage Uimp,8KV
- Rated Working Voltage Ue,AC 400V
- Rated Operational Frequency,50Hz
- Utilization Category,A



Con	Complete Functions and Accessories									
1	Spreader	6	MX	11	SD					
2	Phase Barrier	7	MN	12	OF					
3	AC Motor Mechanism	8	Leakage Module (Can't order separately)							
4	Round Exended Rotary Handle	9	Plug-in Rear Connection							
5	Square Exended Rotary Handle	10	Fixed Rear Connection							

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Except the basic features of overload and short circuit protection, the HDM6L residual current protecting circuit breaker can also provide indirect contact protection for people and prevent fire accident due to damaged insulation and defective grounding current. The circuit breaker can also add functions if needed,including electricity leakage alarm.



Versatile functions

The circuit breaker conforms to the latest national standards, and uses reliable 3-phase power supply technology. If one phase is missing, i.e. there is one phase loss, the circuit breaker can still provide reliable leakage protection. The product has wide range of voltage input. When the voltage drops to 85V due to power supply failure, the circuit breaker can still provide reliable leakage protection. The time delay function includes non-delay mode and 3-section delay mode, which can be chosen by the user according to residual current.

Easy operation

The testing button is easy and convenient to use. The micro-switch has sensitive contact and long service life. The trip coil has excellent material and performance with remarkable trip indicating button, which provides a safe and reliable operation environment for clients.

Basic parameter information

The 4-pole products with N phase are divided to four types.

A type: N phase is not equipped with overcurrent trip component and N phase is always connected. The N phase does not open/close with the other 3 poles

B type: N phase is not equipped with overcurrent trip component, and N phase opens/closes with the other 3 poles (N phase closes first and then opens)

C type: N phase is equipped with overcurrent trip component, and N phase always opens/closes with the other 3 poles (N phase closes first and then opens)

D type: N phase is equipped with overcurrent trip component and N phase is always connected. The N phase does not open/close with the other 3 poles.

Electric motor protection

HDM6L residual current protection circuit breaker with plastic case can be used for electricity distribution protection, frame current under 400 and electric motor protection.

Isolation function

HDM6L series product has isolation protection function. The operation handle can indicate "OFF" position only when the contact is really opened.

Complete Accessories of HDM6L Series

Indicating Accessories



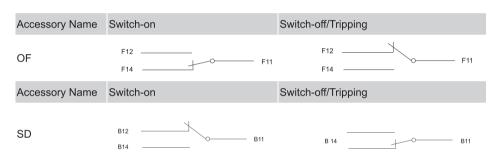
Be connected in the auxiliary circuit of switch device and used for the accessories to indicate the position of the circuit breaker contacts

Alarm Switch(SD):

Be used for the accessories under the state of on and off or trip of the indication circuit breaker for the following reasons:

- o Overload or short-circuit fault
- o Residual ea rth-leakage fault
- o Artificial Testing Release
- o Shunt Trip Release
- o Line Fault and Under-voltage Release Tripping

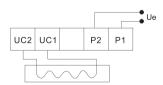




Electrical Parameter of OF&SD		
		3A
Rated Thermal Current(A)	AC15	DC13
Utilization Category Working Current 50Hz AC400V	0.3A	-
DC220V		0.15A



Undervoltage Release Wiring



Control Accessories

• Under-voltage Release(MN)

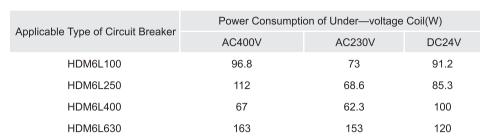
Tripping threshold between 0.35 and 0.7 times the rated voltage; when it is at 85%-110% of rated working voltage, Under-voltage Release shall ensure re the circuit breaker switch-on; when the rated working voltage is less than 35, Under voltage Release shall prevent switch-on of the Circuit breaker

Applicable Type of Circuit Breaker	Power Consumption of	of Under—voltage Coil(W)
	AC400V	AC230V
HDM6L100	3.9	3.2
HDM6L250	4.3	3.3
HDM6L400	3.6	2.5
HDM6L630	2	1.6

Complete Accessories of HDM6L Series

Shunt Release(MX)

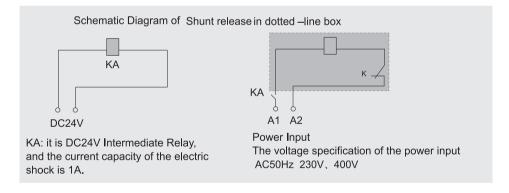
When the working voltage is between 70%-110%Us ,the shunt release shall reliably trip the circuit breaker.



When the rated control supply voltage of the shunt release is DC24V the maximum length of the copper conductor shall satisfy the following requirements:

Conductor Area Rated Control Supply Voltage(DC24V)	1.5mm²	2.5mm²
100%Us	150m	250m
85%Us	100m	160m

When the requirements above cannot be satisfied, it is recommended to adopt the following chart to design control loop of the shunt release.



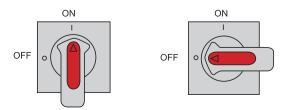


Shunt Release Wiring



Extended Rotary Handle

- o Function:indication of the three positions of switch—on,switch—off and trip
- o The circuit breaker cannot be switch—on when the switch board door is open
- o The door cannot be opened if the circuit breaker is ON
- An extension shaft that can be adjusted to the distance between the back of circuit breaker and door the specific distance refers to the dimensions at the rear and the installation part.
- o The OFF—Position of the circuit breaker can han 91—3 locks with the diameter of 5 mm

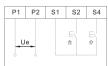


Complete Accessories of HDM6L Series

AC Motor Mechanism

Provide on-site and remote distance control circuit breaker to implement switch-on and switch-off.







Phase Barriers

The phase barriers are used to reinforce isolation of connection points in installation with bus-bars Whether insulated or not We can easily install the phase barrier through the phase slot of the this product.

Both the inlet and outlet line of HDM6s has phase barrier.



• Leakage Alarm module

(Alarm but Non Tripping Function: Alarm but non tripping in case of leakage reach the alarm limitation meanwhile still in energized state)

The module indicates alarm by means of luminous diode.

As luninous diode indicates red, it means system leakage exceed setting value, and at that time, normally open contact turn to normal close, normal closed contact trun to normal open.



Connection Accessories

• Fixed, Rear Connection It is easy to install and connect the products in the Rear Connection.



• Plug-in Rear Connection

The plug-in connection for the products is easy for maintenance and replacement, but plug-in and plug-out cannot be done with the electricity.

Installation Location of Accessories

Installation Method for Tripping Release and Accessories Code



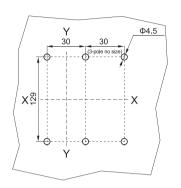
Name of Accessory		Produt Type	
	HDM6L100/250	HDM6L400	HDM6L630
Alarm Switch	← □	← □ →	← □
Shunt Release	•••	•••	← • • • • • • • • • • • • • • • • • • •
Auxiliary Contact	← ■	← ■	← ■
Undervoltage Release		• 0	• 0
Two Group Auxiliary Contact	←	←	←
Auxiliary Contact Alarm Switch	←□	← □	← □□□→

Standard: IEC 60947-2

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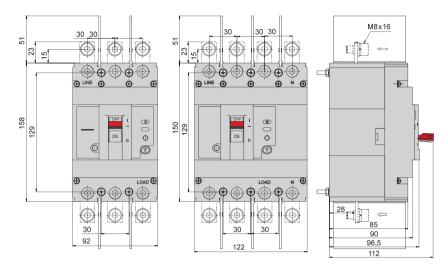
HDM6L 100AF Installation Dimension

- Chart of Fixed Front Connection Installation Hole

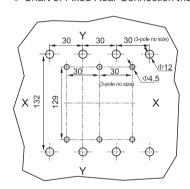


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

• Installation Dimension of Fixed Front Connection



• Chart of Fixed Rear Connection Installation Hole



Remark: X-X, Y-Y is the center of 3-pole circuit breaker

• Fixed Rear Connection Wiring

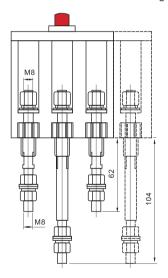
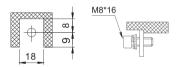
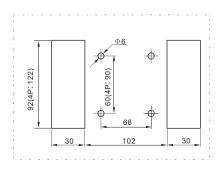


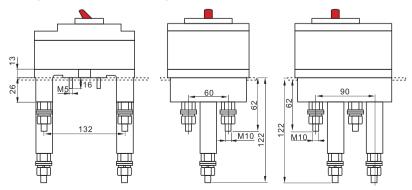
 Chart of Terminal Connection Installation Hole



• Chart of Plug-in Rear Connection Installation Hole



Plug-in Rear Connection Wiring

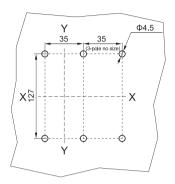


Standard: IEC 60947-2

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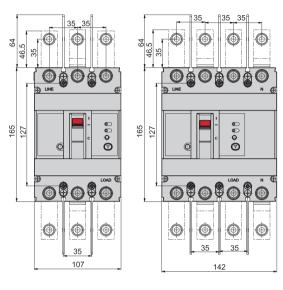
HDM6L 250AF Installation Dimension

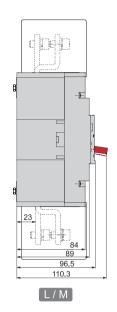
• Chart of Fixed Front Connection Installation Hole



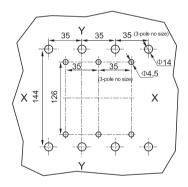
Remark: X-X, Y-Y is the center of 3-pole circuit breaker

• Installation Dimension of Fixed Front Connection





• Chart of Fixed Rear Connection Installation Hole



Remark: X-X, Y-Y is the center of 3-pole circuit breaker

• Fixed Rear Connection Wiring

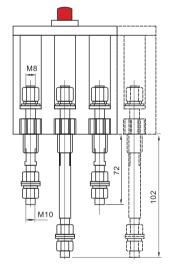
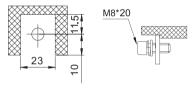
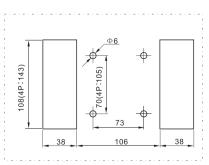
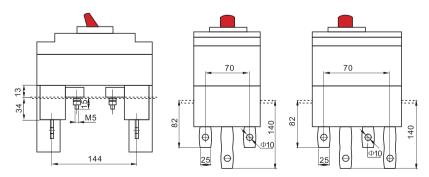


 Chart of Terminal Connection Installation Hole



• Chart of Plug-in Rear Connection Installation Hole • Plug-in Rear Connection Wiring



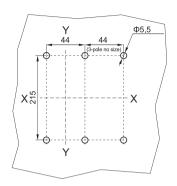


Standard: IEC 60947-2

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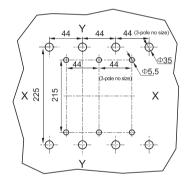
HDM6L 400AF Installation Dimension

• Chart of Fixed Front Connection Installation Hole



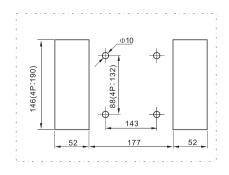
Remark: X-X, Y-Y is the center of 3-pole circuit breaker

 Chart of Fixed Rear Connection Installation Hole

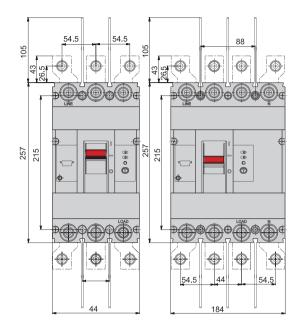


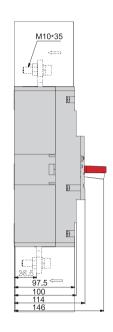
Remark: X-X, Y-Y is the center of 3-pole circuit breaker

 Chart of Plug-in Rear Connection Installation Hole



• Installation Dimension of Fixed Front Connection





• Fixed Rear Connection Wiring

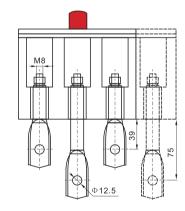
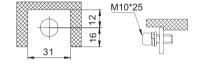
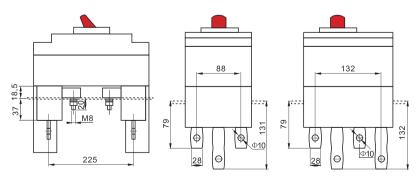


 Chart of Terminal Connection Installation Hole



• Plug-in Rear Connection Wiring

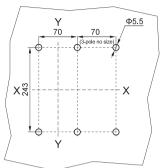


Standard: IEC 60947-2

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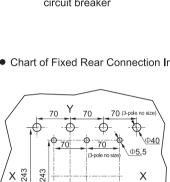
HDM6L 630AF Installation Dimension

• Chart of Fixed Front Connection Installation Hole



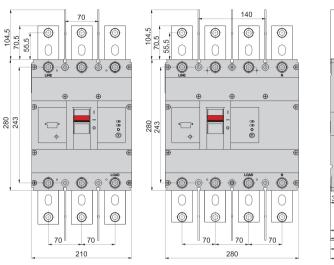
Remark: X-X, Y-Y is the center of 3-pole circuit breaker

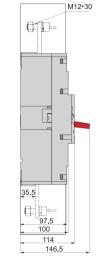
• Chart of Fixed Rear Connection Installation Hole



Remark: X-X, Y-Y is the center of 3-pole circuit breaker

• Installation Dimension of Fixed Front Connection





• Fixed Rear Connection Wiring

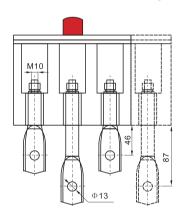
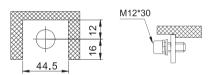
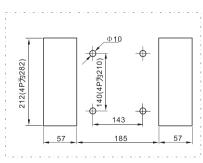


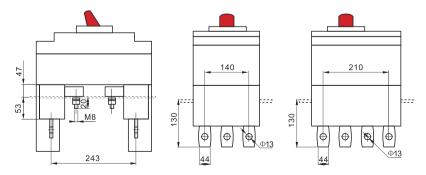
Chart of Terminal Connection Installation Hole



• Chart of Plug-in Rear Connection Installation Hole



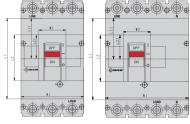
• Plug-in Rear Connection Wiring



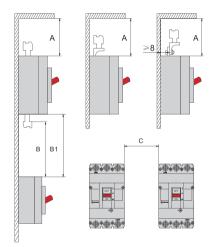
Standard: IEC 60947-2

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• HDM6L Earth—Leakage circuit Breaker connection Hole-opening Dimension



Type of Circuit Breaker	Pole	Exposure of Pull—out H	of Front Cov landle	er and	Exposure of Pull—out Handle Only				
	No.	W1	L1	L11	W2	L2	L21		
HDM6L100AF	3P	92	88	42	35	60	30		
HDM6L TOUAF	4P	122	88	42	35	60	30		
	3P	107	102	51	35	60	30		
HDM6L250AF	4P	142	102	51	35	60	30		
HDM6L400AF	3P	140	180	90	61	102	53		
HDW0L400AF	4P	184	180	90	61	102	53		
HDM6I 630AE	3P	210	200	100	65	102	51		
HDM6L630AF	4P	280	200	100	65	102	51		



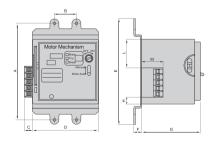
• Safety Distance

Type of Circuit Breaker	A(mm)	B(mm)	B1(mm)	C(mm)
HDM6L100AF	60	60		30
HDM6L250AF	60	60	Length of	30
HDM6L400AF	110	110	Exposed Conductor +B	70
HDM6L630AF	110	110		70

Remark:no matter whether the products have the accessories,the distance between the products must meet the requirements of C distance.

Installation Dimension

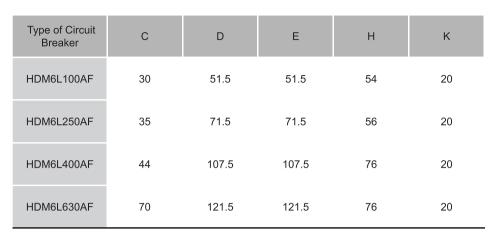
AC Motor Mechanism

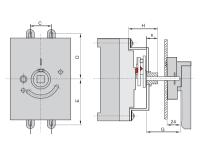


Type of Circuit Breaker	Α	В	С	D	Е	F	G	Н	L	М
HDM6L100AF	129	30	11	90	144	14	80	8.5	38.5	28.5
HDM6L250AF	126	35	11	104	138	13	80	8.5	38.5	28.5
HDM6L400AF	215	44	11	140	232	22	112	12	97.5	28.5
HDM6L630AF	243	70	11	150	260	16	112	12	97.5	28.5

Standard: IEC 60947-2

• HDM6L100—630 Frame Extension Rotary Handle Base Dimension

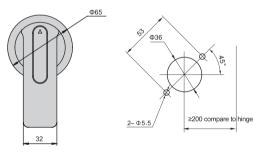




Remark: the shortest distance of G connecting rod is 50mm and ex-factory standard configuration is 150mm, please contact the factory if the special customization is required.

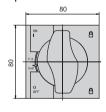
• HDM6L100—630 Frame Extension Rotary Handle

Round

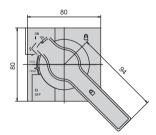


HDM6L100 and HDM6L250 is 65 or 95 for option, the default value is 65. HDM6L400, HDM6L630 is 95 or 1 25 for option, the default value is 95.

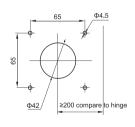
Square



HDM6L 100/250AF



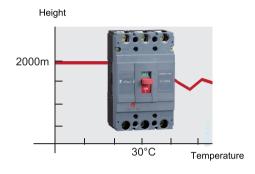
HDM6L 400/630AF



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Impact of High Temperature on tripping Release Performance

When environmental temperature is over 40°C,small changes have taken place on overload protection properties,In tripping release time,current curve,the Ir setting value of the circuit breaker must be corrected as per the following factors.



Type of Circuit Breaker	Ambient Temperature				
	30	35	40	45	50
HDM6L100AF	1	0.97	0.95	0.92	0.89
HDM6L250AF	1	0.98	0.97	0.95	0.94
HDM6L400AF	1	0.98	0.95	0.93	0.91
HDM6L630AF	1	0.98	0.95	0.93	0.91

Impact of Altitude on Tipping Release Performance

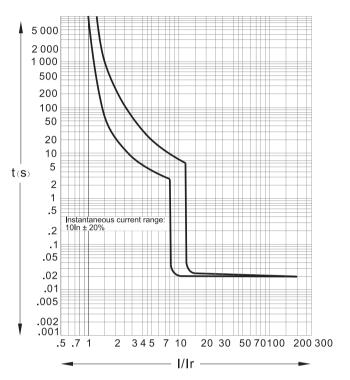
There is no impact on the performance of the circuit breaker when the height is below 2000m,But when it is over 2000m,the falling factors as air insulation properties and cooling capability shall be considered,the correction factors given in the table below are applicable for the conditions of the height for the installation over 2000m,the breaking capacity of the circuit breaker remains unchanged.

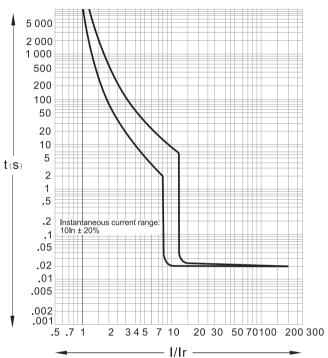
Altitude(m)	2000	3000	4000	5000
Max.Working Voltage(V)	415	350	310	270
30°C Thermal Rated Value(A)	In	0.96In	0.93In	0.96In
Average Isolation Voltage(V)	800	700	600	500
Dielectric Strength(V)	3000	2500	2100	1800

3-Pole (W) Total Power Loss				
Type of Circuit Breaker	Power-up Current	Front Connectuion Wiring(Standard)	Rear Connectuion Wiring	Plug-in Wiring
HDM6L100AF	100A	40	50	50
HDM6L250AF	250A	63	90	90
HDM6L400AF	400A	103	110	130
HDM6L630AF	800A	200	230	290

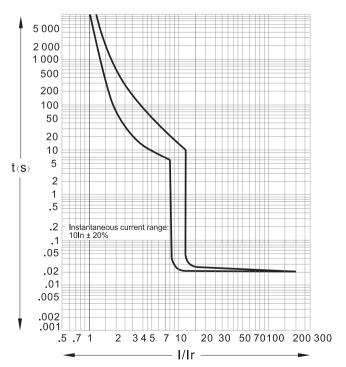
Tripping Release Curve

- HDM6L-100 16A-50A,the black line is used for the distribution
- HDM6L-100 63A-100A, the black line is used for the distribution



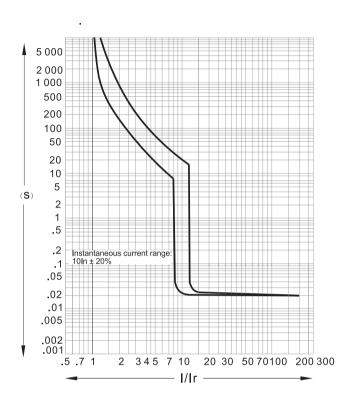


• HDM6L-250 100A-250A, the black line is used for the distribution.

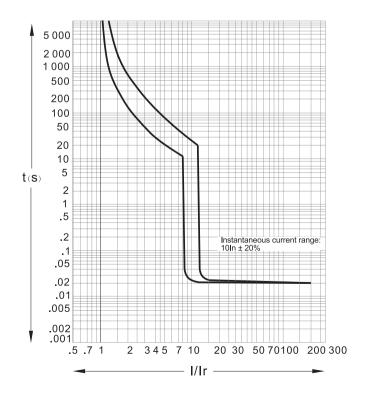


Tripping Release Curve

• HDM6L-400 200A-400A,the black line is used for the power distribution



• HDM6L-630 400A-630A is used for the power distribution.



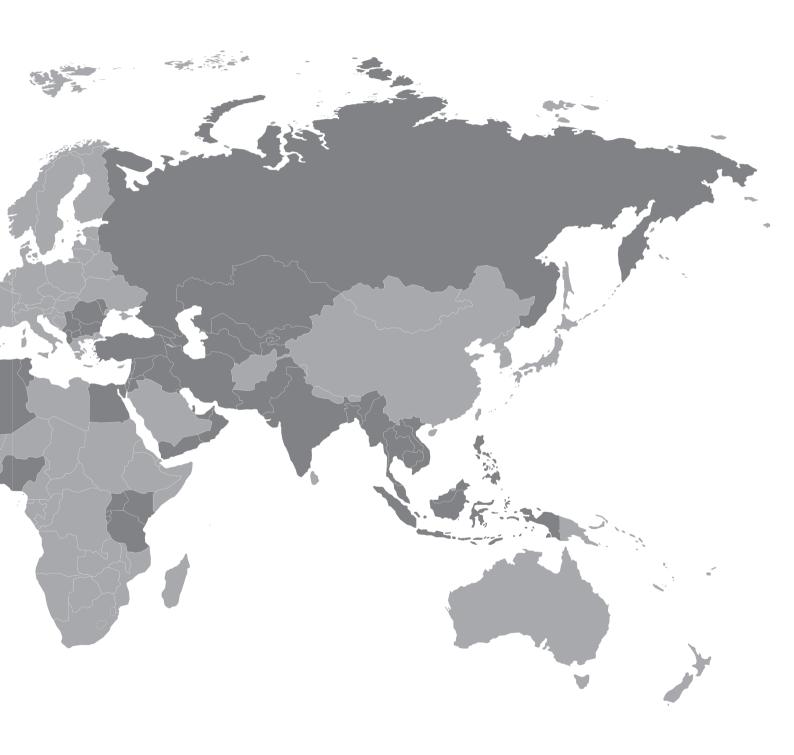
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