




# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



## Order Information

Type	Pole	In A	Fixed Thermal Magnetic				Thermo-adjustable	
			L-type	S-Type	M-type	T-Type	M-type	T-Type
	3	10	HDM6s063L0103XXXF	HDM6s063S0103XXXF	HDM6s063M0103XXXF	HDM6s063T0103XXXF	-	-
		16	HDM6s063L0163XXXF	HDM6s063S0163XXXF	HDM6s063M0163XXXF	HDM6s063T0163XXXF	-	-
		20	HDM6s063L0203XXXF	HDM6s063S0203XXXF	HDM6s063M0203XXXF	HDM6s063T0203XXXF	-	-
		25	HDM6s063L0253XXXF	HDM6s063S0253XXXF	HDM6s063M0253XXXF	HDM6s063T0253XXXF	-	-
		32	HDM6s063L0323XXXF	HDM6s063S0323XXXF	HDM6s063M0323XXXF	HDM6s063T0323XXXF	-	-
		40	HDM6s063L0403XXXF	HDM6s063S0403XXXF	HDM6s063M0403XXXF	HDM6s063T0403XXXF	-	-
		50	HDM6s063L0503XXXF	HDM6s063S0503XXXF	HDM6s063M0503XXXF	HDM6s063T0503XXXF	-	-
		63	HDM6s063L0633XXXF	HDM6s063S0633XXXF	HDM6s063M0633XXXF	HDM6s063T0633XXXF	-	-
	4	10	-	-	HDM6s063M0104XXXF	HDM6s063T0104XXXF	-	-
		16	-	-	HDM6s063M0164XXXF	HDM6s063T0164XXXF	-	-
		20	-	-	HDM6s063M0204XXXF	HDM6s063T0204XXXF	-	-
		25	-	-	HDM6s063M0254XXXF	HDM6s063T0254XXXF	-	-
		32	-	-	HDM6s063M0324XXXF	HDM6s063T0324XXXF	-	-
		40	-	-	HDM6s063M0404XXXF	HDM6s063T0404XXXF	-	-
	3	16	HDM6s100L0163XXXF	HDM6s100S0163XXXF	-	-	HDM6s100M0163XXX3	HDM6s100T0163XXX3
		20	HDM6s100L0203XXXF	HDM6s100S0203XXXF	-	-	-	-
		25	HDM6s100L0253XXXF	HDM6s100S0253XXXF	-	-	HDM6s100M0253XXX3	HDM6s100T0253XXX3
		32	HDM6s100L0323XXXF	HDM6s100S0323XXXF	-	-	-	-
		40	HDM6s100L0403XXXF	HDM6s100S0403XXXF	-	-	HDM6s100M0403XXX3	HDM6s100T0403XXX3
		50	HDM6s100L0503XXXF	HDM6s100S0503XXXF	-	-	-	-
		63	HDM6s100L0633XXXF	HDM6s100S0633XXXF	-	-	HDM6s100M0633XXX3	HDM6s100T0633XXX3
		80	HDM6s100L0803XXXF	HDM6s100S0803XXXF	-	-	-	-
	100	HDM6s100L1003XXXF	HDM6s100S1003XXXF	-	-	HDM6s100M1003XXX3	HDM6s100T1003XXX3	
	4	16	-	-	-	-	HDM6s100M0164XXX3	HDM6s100T0164XXX3
25		-	-	-	-	HDM6s100M0254XXX3	HDM6s100T0254XXX3	
40		-	-	-	-	HDM6s100M0404XXX3	HDM6s100T0404XXX3	
63		-	-	-	-	HDM6s100M0634XXX3	HDM6s100T0634XXX3	
	3	100	HDM6s250L1003XXXF	HDM6s250S1003XXXF	-	-	-	-
		125	HDM6s250L1253XXXF	HDM6s250S1253XXXF	-	-	HDM6s250M1253XXX3	HDM6s250T1253XXX3
		160	HDM6s250L1603XXXF	HDM6s250S1603XXXF	-	-	HDM6s250M1603XXX3	HDM6s250T1603XXX3
		180	HDM6s250L1803XXXF	HDM6s250S1803XXXF	-	-	-	-
		200	HDM6s250L2003XXXF	HDM6s250S2003XXXF	-	-	HDM6s250M2003XXX3	HDM6s250T2003XXX3
		225	HDM6s250L2253XXXF	HDM6s250S2253XXXF	-	-	-	-
		250	HDM6s250L2503XXXF	HDM6s250S2503XXXF	-	-	HDM6s250M2503XXX3	HDM6s250T2503XXX3
	4	125	-	-	-	-	HDM6s250M1254XXX3	HDM6s250T1254XXX3
		160	-	-	-	-	HDM6s250M1604XXX3	HDM6s250T1604XXX3
		200	-	-	-	-	HDM6s250M2004XXX3	HDM6s250T2004XXX3
250		-	-	-	-	HDM6s250M2504XXX3	HDM6s250T2504XXX3	




Low-voltage Distribution

# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



## Order Information

Type	Pole	In A	Fixed Thermal Magnetic				Thermo-adjustable	
			L-type	S-Type	M-type	T-Type	M-type	T-Type
	3	200	HDM6s400L2003XXXF	HDM6s400S2003XXXF	-	-	-	-
		225	HDM6s400L2253XXXF	HDM6s400S2253XXXF	-	-	-	-
		250	HDM6s400L2503XXXF	HDM6s400S2503XXXF	-	-	HDM6s400M2503XXX3	HDM6s400T2503XXX3
		315	HDM6s400L3153XXXF	HDM6s400S3153XXXF	-	-	-	-
		350	HDM6s400L3503XXXF	HDM6s400S3503XXXF	-	-	-	-
		400	HDM6s400L4003XXXF	HDM6s400S4003XXXF	-	-	HDM6s400M4003XXX3	HDM6s400T4003XXX3
	4	200	HDM6s400L2004XXXF	HDM6s400S2004XXXF	-	-	-	-
		225	HDM6s400L2254XXXF	HDM6s400S2254XXXF	-	-	-	-
		250	HDM6s400L2504XXXF	HDM6s400S2504XXXF	-	-	HDM6s400M2504XXX3	HDM6s400T2504XXX3
		315	HDM6s400L3154XXXF	HDM6s400S3154XXXF	-	-	-	-
		350	HDM6s400L3504XXXF	HDM6s400S3504XXXF	-	-	-	-
		400	HDM6s400L4004XXXF	HDM6s400S4004XXXF	-	-	HDM6s400M4004XXX3	HDM6s400T4004XXX3
	3	400	HDM6s630L4003XXXF	HDM6s630S4003XXXF	-	-	-	-
		500	HDM6s630L5003XXXF	HDM6s630S5003XXXF	-	-	HDM6s630M5003XXX3	HDM6s630T5003XXX3
		630	HDM6s630L6303XXXF	HDM6s630S6303XXXF	-	-	HDM6s630M6303XXX3	HDM6s630T6303XXX3
	4	400	HDM6s630L4004XXXF	HDM6s630S4004XXXF	-	-	-	-
		500	HDM6s630L5004XXXF	HDM6s630S5004XXXF	-	-	HDM6s630M5004XXX3	HDM6s630T5004XXX3
		630	HDM6s630L6304XXXF	HDM6s630S6304XXXF	-	-	HDM6s630M6304XXX3	HDM6s630T6304XXX3
	3	400	HDM6s800L4003XXXF	HDM6s800S4003XXXF	HDM6s800M4003XXXF	HDM6s800T4003XXXF	-	-
		500	HDM6s800L5003XXXF	HDM6s800S5003XXXF	HDM6s800M5003XXXF	HDM6s800T5003XXXF	-	-
		630	HDM6s800L6303XXXF	HDM6s800S6303XXXF	HDM6s800M6303XXXF	HDM6s800T6303XXXF	-	-
		700	HDM6s800L7003XXXF	HDM6s800S7003XXXF	HDM6s800M7003XXXF	HDM6s800T7003XXXF	-	-
	4	400	HDM6s800L4004XXXF	HDM6s800S4004XXXF	HDM6s800M4004XXXF	HDM6s800T4004XXXF	-	-
		500	HDM6s800L5004XXXF	HDM6s800S5004XXXF	HDM6s800M5004XXXF	HDM6s800T5004XXXF	-	-
		630	HDM6s800L6304XXXF	HDM6s800S6304XXXF	HDM6s800M6304XXXF	HDM6s800T6304XXXF	-	-
		700	HDM6s800L7004XXXF	HDM6s800S7004XXXF	HDM6s800M7004XXXF	HDM6s800T7004XXXF	-	-
800	HDM6s800L8004XXXF	HDM6s800S8004XXXF	HDM6s800M8004XXXF	HDM6s800T8004XXXF	-	-		

Low-voltage Distribution

# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



## Technical Data



### Fixed Thermal Magnetic

#### Basic Information (IEC60947-2)

Frame Size	AF	63				100				250			
		3P		4P		3P		4P		3P		4P	
Number of Poles		L	S	M	T	M	T	L	S	L	S	L	S
Breaking Capacity Level		25	18	50	30	50	30	35	26	35	26	35	26
Rated Ultimate Short-circuit Breaking Capacity Icu (kA rms)		75%	100%	50%	100%	50%	100%	75%	100%	75%	100%	75%	100%
Rated Service Short-circuit Breaking Capacity Ics (kA rms)		8500				8500				7000			
Mechanical Durabilities		1500				1500				1000			
Electrical Durabilities	On-off Cycle												

#### Tripping Unit

Rated Current (A)	In	10/16/20/25/32/40/50/63	16/20/25/32/40/50/63/80/100	-	100/125/160/180/200/225/250	-
-------------------	----	-------------------------	-----------------------------	---	-----------------------------	---

#### Accessory

##### Indication Accessories

OF		■		■		■
SD		■		■		■

##### Control Accessories

MX(AC400, 230V, DC220V)		■		■		■
MN (AC400, 230V)		■	-	■		■
Extended Rotary Handle (Round and Square)		■		■		■
AC Motor Mechanism (AC400, 230V)		■		■		■
Mechanical Interlock		■	-	■	-	■

##### Mounting & Connection

Fixed, Front Connection		■		■		■
Fixed, Rear Connection		■		■		■
Plug-in, Rear Connection		■	-	■		■
Plug-in, Front Connection		-		■		■
Drawer-out, Rear Connection		-		-		-

##### Connection

Spreader		■		■		■
----------	--	---	--	---	--	---

##### Protection

Phase Barrier		■		■		■
---------------	--	---	--	---	--	---

Installation Information		See Page 74	See Page 75	See Page 76
--------------------------	--	-------------	-------------	-------------

“■” shows it has this option;

“-” means it has no this option.

# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



## Technical Data



### Fixed Thermal Magnetic

#### Basic Information (IEC60947-2)

Frame Size	AF	400				630				800							
		3P		4P		3P		4P		3P				4P			
Number of Poles		L	S	L	S	L	S	L	S	L	S	M	T	L	S	M	T
Breaking Capacity Level																	
Rated Ultimate Short-circuit Breaking Capacity Icu (kA rms)		50	30	50	30	50	30	50	30	50	30	70	40	50	30	70	40
Rated Service Short-circuit Breaking Capacity Ics (kA rms)		50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%
Mechanical Durabilities		4000				4000				2500							
Electrical Durabilities	On-off Cycle	1000				1000				500							
Tripping Unit																	
Rated Current (A)	In	200/225/250/315/350/400				400/500/630				400/500/630/700/800							
<b>Accessory</b>																	
<b>Indication Accessories</b>																	
OF				■				■									■
SD				■				■									■
<b>Control Accessories</b>																	
MX(AC400, 230V, DC220V)				■				■									■
MN (AC400, 230V)				■				■									■
Extended Rotary Handle (Round and Square)				■				■									■
AC Motor Mechanism (AC400, 230V)				■				■									■
Mechanical Interlock		■		-				■				■					-
<b>Mounting &amp; Connection</b>																	
Fixed, Front Connection				■				■									■
Fixed, Rear Connection				■				■									■
Plug-in, Rear Connection				■				■									■
Plug-in, Front Connection				-				-									-
Drawer-out, Rear Connection				■				■									■
<b>Connection</b>																	
Spreader				■				■									■
<b>Protection</b>																	
Phase Barrier				■				■									■
Installation Information		See Page 77				See Page 78				See Page 79							

“■” shows it has this option;

“-” means it has no this option.

Low-voltage Distribution

# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



## Technical Data



### Thermo-adjustable

#### Basic Information (IEC60947-2)

Frame Size	AF	100				250				400				630			
		3P		4P		3P		4P		3P		4P		3P		4P	
Number of Poles		M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T
Breaking Capacity Level		50	30	50	30	50	30	50	30	70	40	70	40	70	40	70	40
Rated Ultimate Short-circuit Breaking Capacity Icu (kA rms)		50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%
Rated Service Short-circuit Breaking Capacity Ics (kA rms)		50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%
Mechanical Endurance		8500				7000				4000				4000			
Electrical Endurance	On-off Cycle	1500				1000				1000				1000			

#### Tripping Unit

Rated Current (A)	In	16/25/40/63/100	125/160/200/250	250/400	500/630
Thermo-adjustable Setting (Ir)	In	0.8/0.9/1.0In		0.8/0.9/1.0In	

#### Accessory

##### Indication Accessories

OF		■		■		■		■
SD		■		■		■		■

##### Control Accessories

MX(AC400, 230V, DC220V)		■		■		■		■
MN (AC400, 230V)		■	-	■		■		■
Extended Rotary Handle (Round and Square)		■		■		■		■
AC Motor Mechanism (AC400, 230V)		■		■		■		■
Mechanical Interlock		■	-	■	-	■	-	■

##### Mounting & Connection

Fixed, Front Connection		■		■		■		■
Fixed, Rear Connection		■		■		■		■
Plug-in, Rear Connection		■	-	■		■		■
Plug-in, Front Connection		-		■		-		-
Drawer-out, Rear Connection		-		-		■		■

##### Connection

Spreader		■		■		■		■
----------	--	---	--	---	--	---	--	---

##### Protection

Phase Barrier		■		■		■		■
---------------	--	---	--	---	--	---	--	---

Installation Information		See Page 75	See Page 76	See Page 77	See Page 78
--------------------------	--	-------------	-------------	-------------	-------------

“■” shows it has this option;

“-” means it has no this option.

# HDM6s Molded Case Circuit Breaker

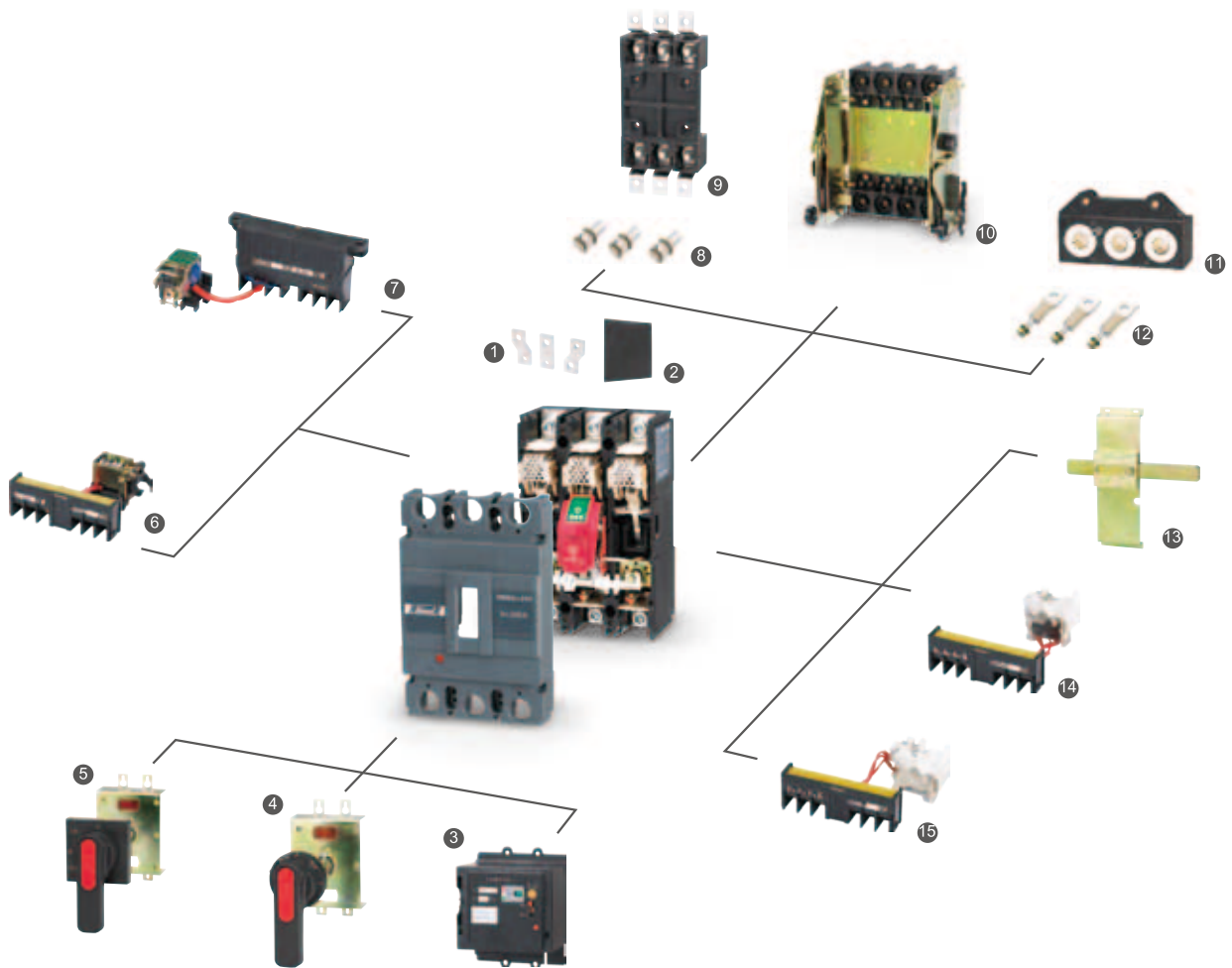
Standard: IEC 60947-2



## Basic Technical Data

- Rated Insulation Voltage  $U_i$ : AC 800V (Frame 63AF: AC 690V)
- Rated Impulse Withstand Voltage  $U_{imp}$ : 8KV (Frame 63AF: 6KV)
- Rated Working Voltage  $U_e$ : AC 415V (Frame 63AF: AC 400)
- Rated Working Frequency: 50Hz/60Hz
- Utilization Category: A
- Isolation Function: Applicable for all series

## Complete Functions and Accessories



1	Spreader	6	MX	11	Plug-in Rear Connection
2	Phase Barrier	7	MN	12	Fixed Rear Connection
3	AC Motor Mechanism	8	Plug-in Connecting Terminal	13	Mechanical Interlock
4	Round Extended Rotary Handle	9	Plug-in Front Connection	14	SD
5	Square Extended Rotary Handle	10	Drawer-out Rear Connection	15	OF

# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2

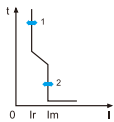


## Complete Functions

### Optional Tripping Unit Functions

The tripping unit is the intelligent part of the moulded case circuit breaker.

HDM6s Thermal Magnetic Tripping Unit is divided into 2 types, that is, Fixed Rating and Thermal-adjustable Tripping Unit.



### Fixed Thermal Magnetic Tripping Unit

- Be used for overload and short-circuit protection.

### Thermal-adjustable, Fixed-magnetic Tripping Unit

- Be used for overload and short-circuit protection
- Adjustable overload current
- Change the relation between the overload current and the rated current by adjusting the grades of the knobs (0.8-0.9-1.0In, three grades are available to be adjusted). Even so the current of instantaneous protection movement shall still take the rated current as the base number

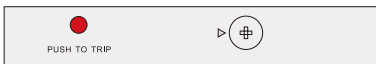
E.g.: The customers need 250AF, 200A current MCCB, and considering the product expansion in the future, it is required to select the circuit breaker with overload adjustable feature. So which kind of the product should the customers choose, how much is it for overload tripping release current (Ir1) and instantaneous tripping release current (Ii)?

Answer: HDM6s, 250AF, M-Type Breaking Capacity, Rated Current 250A, and switch the knob in the grade of 0.8.

So,  $I_{r1}=250A * 0.8=200A$ ,  $I_i=250 * 10=2500A$ .

### HDM6s All Series of Products Featuring Isolation Function

- The circuit breaker with isolation function shall meet the standard of IEC 60947-2.
- The operating handle hasn't indicated "OFF" position until the contact has been indeed opened.
- The Isolation Function Protection includes:
  - Mechanical reliability of the contact indication system
  - No leakage current
  - Over-voltage Withstand Capacity between outlet and inlet terminals



# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



## Complete Accessories of HDM6 Series

### Indicating Accessories

- Auxiliary Contact (OF):

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 5 reasons:

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



Accessory Name	Switch-on/off	Tripping
----------------	---------------	----------



Accessory Name	Switch-on/off	Tripping
----------------	---------------	----------



Electrical Parameter of OF & SD			
Rated Thermal Current (A)	3A		
Utilization Category	AC15	DC13	
Working Current 50Hz/60Hz	AC400V	0.3A	—
	DC220V	—	0.15A

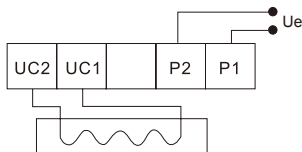
### Control Accessories

- 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 the circuit breaker switch-on; when the rated working voltage is less than 35%, Undervoltage Release shall prevent switch-on of the circuit breaker.



Undervoltage Release Wiring



Applicable Type of Circuit Breaker	Power Consumption of Under-voltage Coil (W)	
	AC400V	AC230V
HDM6s63	4	3.1
HDM6s100	3.9	3.2
HDM6s250	4.3	3.3
HDM6s400	3.6	2.5
HDM6s630	3.4	2.5
HDM6s800	2	1.6

Low-voltage Distribution



# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



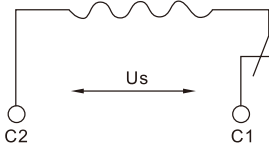
## Complete Accessories of HDM6 Series

### ● Shunt Release (MX)

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



Shunt Release Wiring

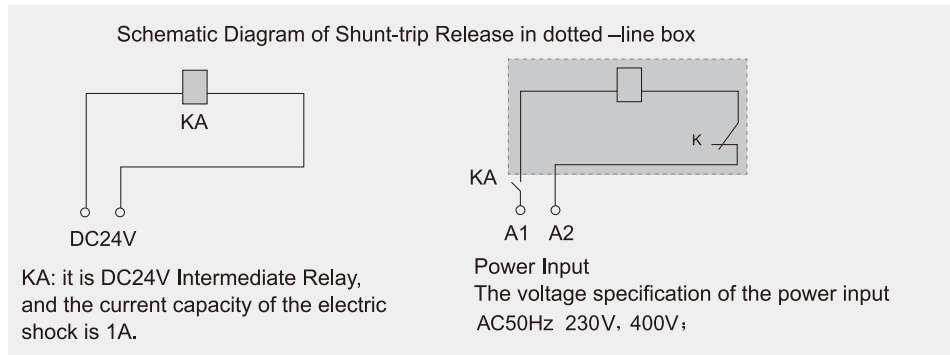


Applicable Type of Circuit Breaker	Power Consumption of Shunt Release Coil (W)			
	AC400V	AC230V	DC220V	DC24V
HDM6s63	91.6	76.1	90.7	91.2
HDM6s100	96.8	73	90.7	91.2
HDM6s250	112	68.6	90.7	85.3
HDM6s400	67	62.3	94.4	100
HDM6s630	68	58.2	94.4	100
HDM6s800	163	153	94.4	120

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

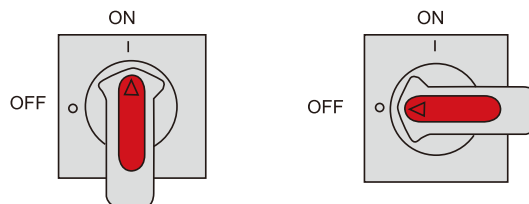
Control Supply Voltage $U_s$ (DC24V)	Conductor Area Rated	
	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>
100% $U_s$	150m	250m
85% $U_s$	100m	160m

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



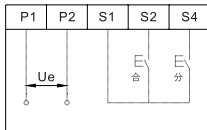
### ● Extended Rotary Handle

- Function: indication of the three positions of switch-on, switch-off and trip
- The circuit breaker cannot be switch-on when the switch board door is open
- 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.
- The OFF-Position of the circuit breaker can hang 1-3 locks with the diameter of 5 mm.



# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



## Complete Accessories of HDM6 Series

- AC Motor Mechanism

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



- Mechanical Interlock

Prevent simultaneous switch-on of two sets of the circuit breakers



- 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.



## Connecting Accessories

- Fixed, Rear Connection

It is easy to install and connect the products in the Rear Connection



- Plug-in

The wiring type is divided into plug-in Rear Connection and plug-in Front 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.



- Drawer-out Rear Connection

The drawer-out products can be easily maintained and replaced Visual connection and break-up.

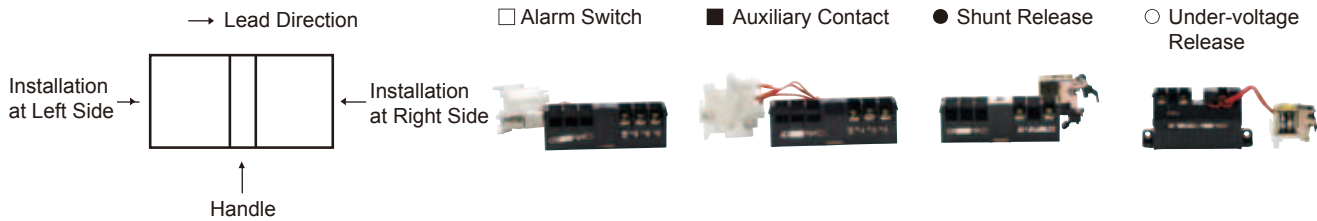
# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



## Installation Location of Accessories

Installation Method for Tripping Release and Accessories Code



Name of Accessory	Product Type			
	HDM6s63/100/250	HDM6s400	HDM6s630	HDM6s800
Alarm Switch				
Shunt Release				
Auxiliary Contact				
Undervoltage Release				
Auxiliary Contact Shunt Release				
Shunt Release Undervoltage Release				
Auxiliary Contact Undervoltage Release				
Shunt-trip Release Alarm Switch				
Undervoltage Release Alarm Switch				
Shunt Release Auxiliary Contact Alarm Switch				
Auxiliary Contact Undervoltage Release Alarm Switch				

Low-voltage Distribution

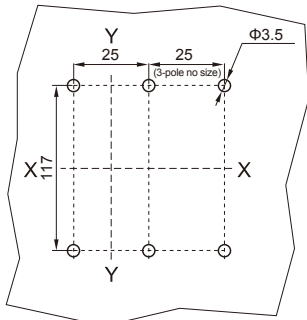
# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



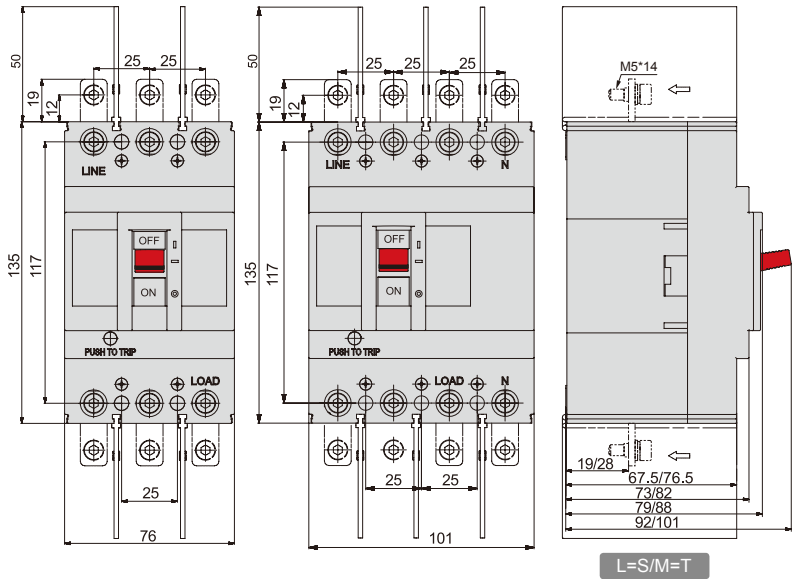
## HDM6s63 Installation Dimension

- Chart of Fixed Front Connection Installation Hole

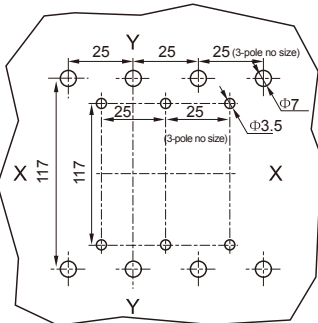


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

- Installation Dimension of Fixed Front Connection

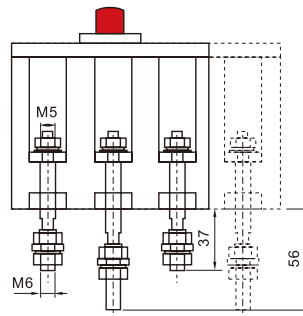


- Chart of Fixed Rear Connection Installation Hole

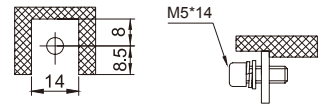


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

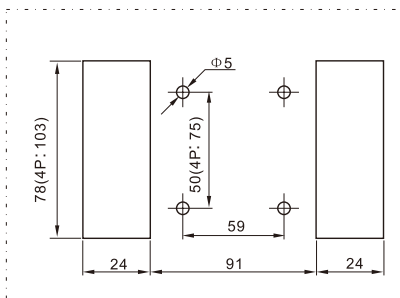
- Fixed Rear Connection Wiring



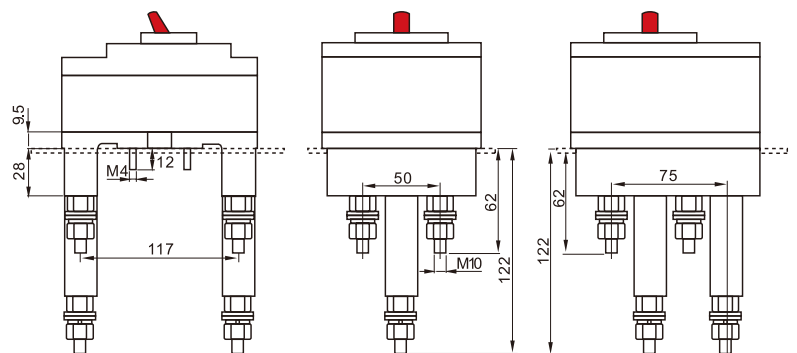
- Chart of Terminal Connection Installation Hole



- Chart of Plug-in Rear Connection Installation Hole



- Plug-in Rear Connection Wiring



Low-voltage Distribution

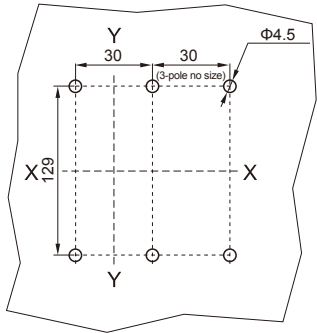
# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



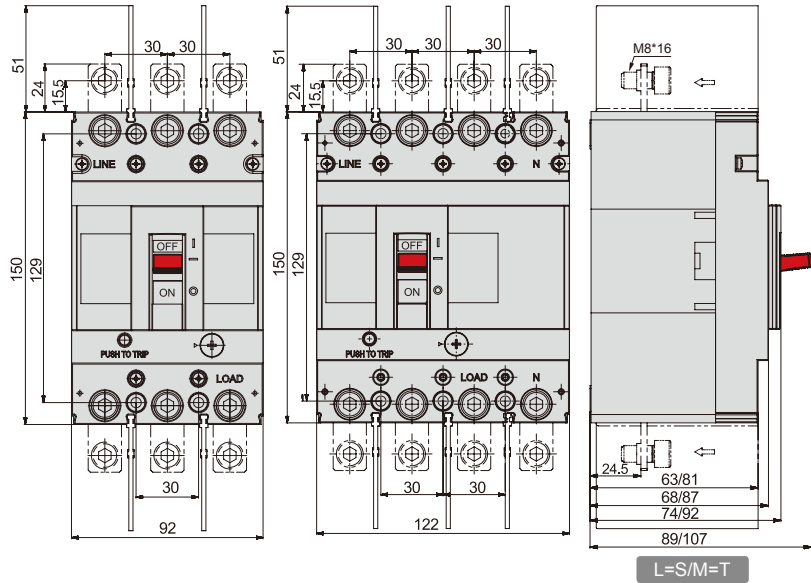
## HDM6s100 Installation Dimension

- Chart of Fixed Front Connection Installation Hole

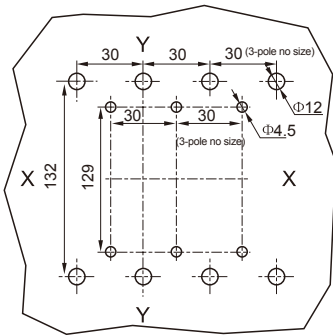


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

- Installation Dimension of Fixed Front Connection

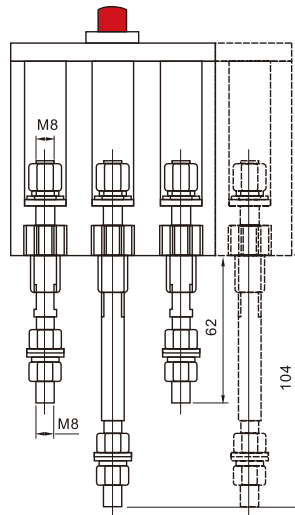


- Chart of Fixed Rear Connection Installation Hole

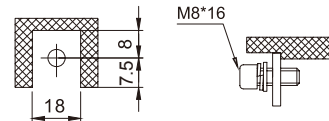


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

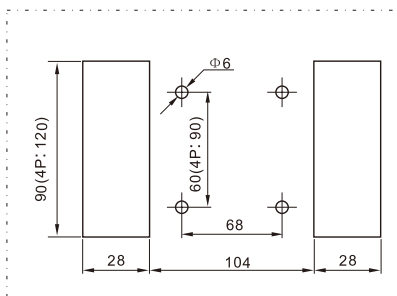
- Fixed Rear Connection Wiring



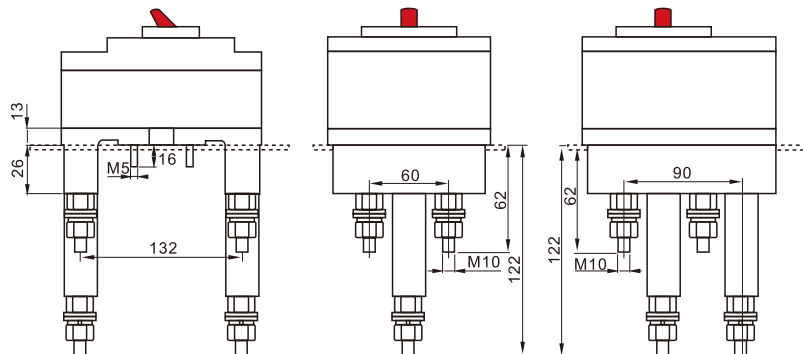
- Chart of Terminal Connection Installation Hole



- Chart of Plug-in Rear Connection Installation Hole



- Plug-in Rear Connection Wiring



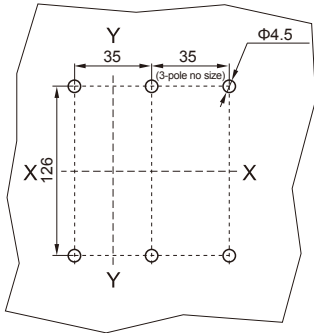
# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



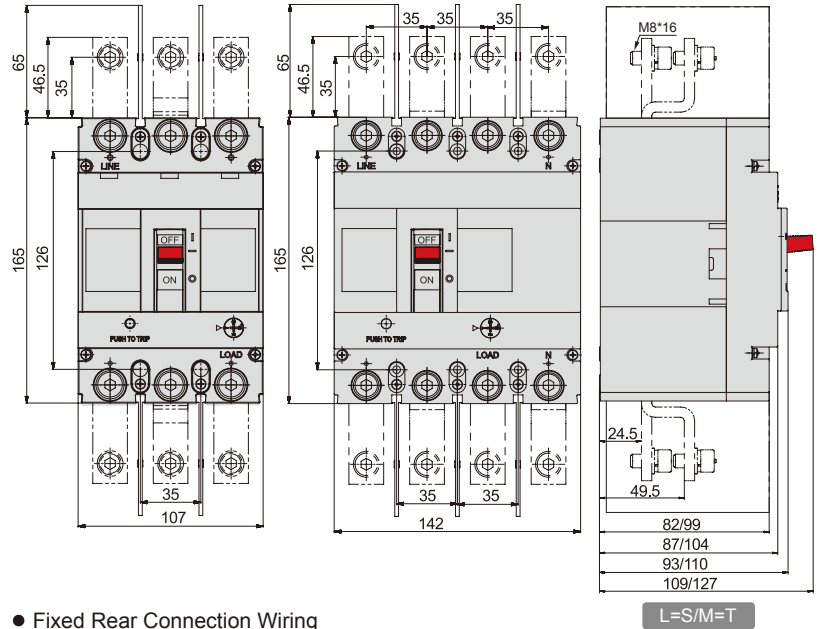
## HDM6s250 Installation Dimension

### • Chart of Fixed Front Connection Installation Hole

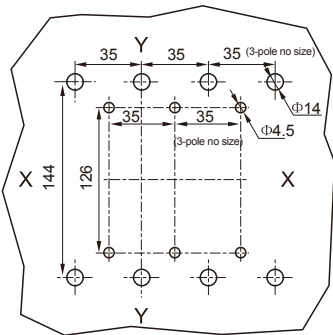


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

### • Installation Dimension of Fixed Front Connection

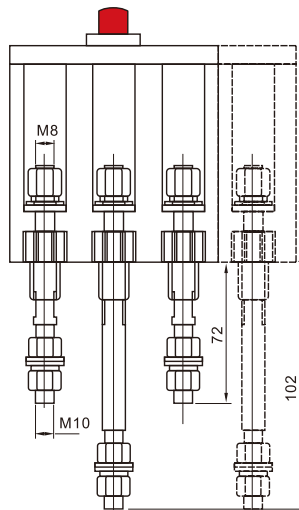


### • Chart of Fixed Rear Connection Installation Hole

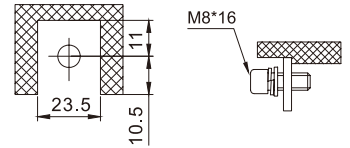


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

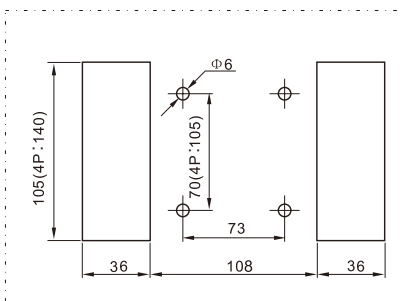
### • Fixed Rear Connection Wiring



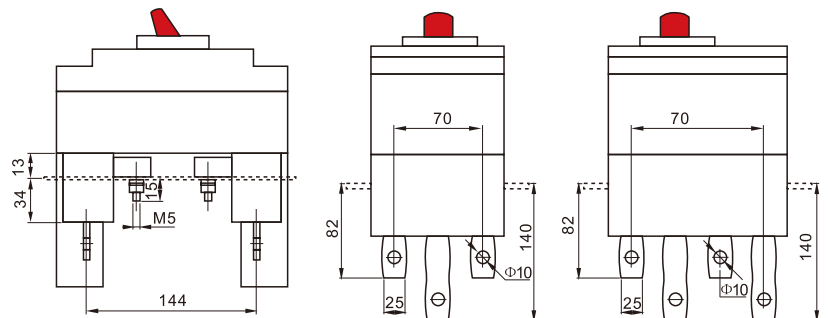
### • Chart of Terminal Connection Installation Hole



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



### • Plug-in Rear Connection Wiring



Low-voltage Distribution

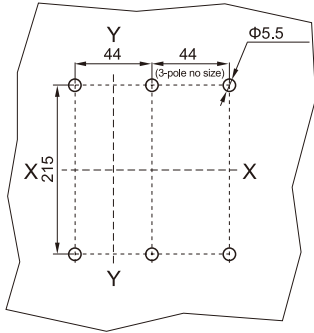
# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



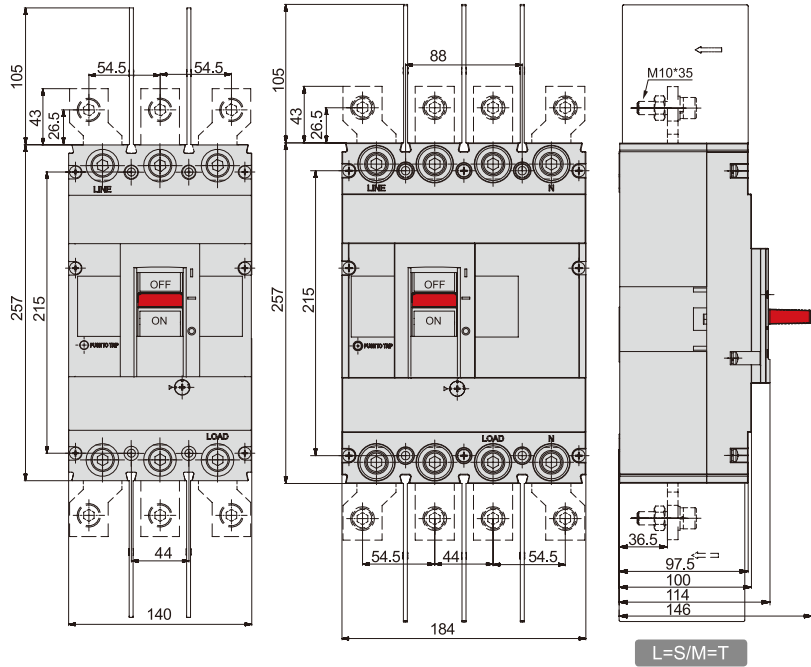
## HDM6s400 Installation Dimension

### ● Chart of Fixed Front Connection Installation Hole

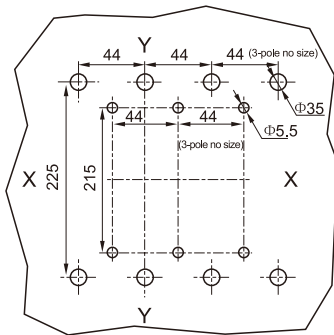


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

### ● Installation Dimension of Fixed Front Connection

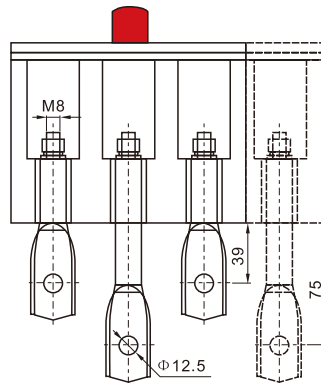


### ● Chart of Fixed Rear Connection Installation Hole

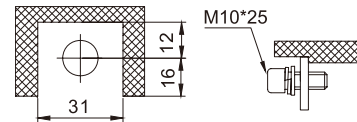


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

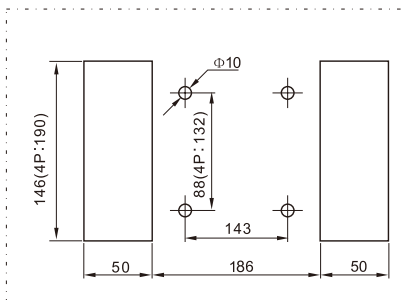
### ● Fixed Rear Connection Wiring



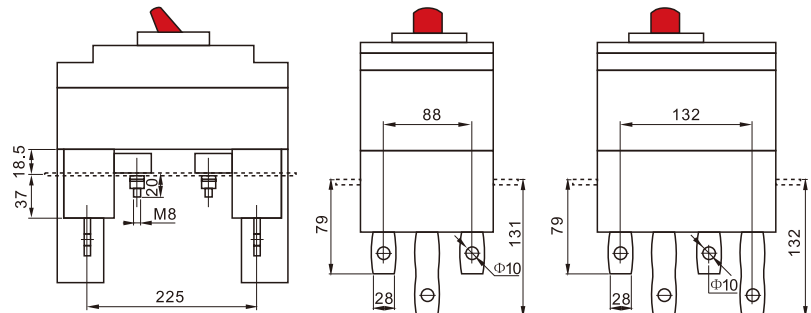
### ● Chart of Terminal Connection Installation Hole



### ● Chart of Plug-in Rear Connection Installation Hole



### ● Plug-in Rear Connection Wiring



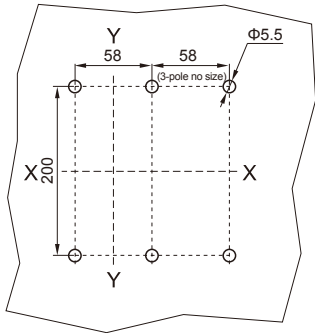
# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



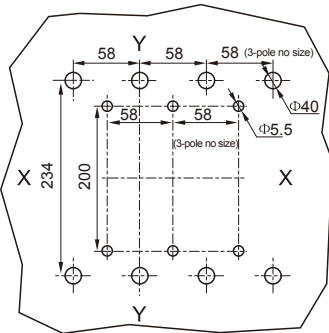
## HDM6s630 Installation Dimension

- Chart of Fixed Front Connection Installation Hole



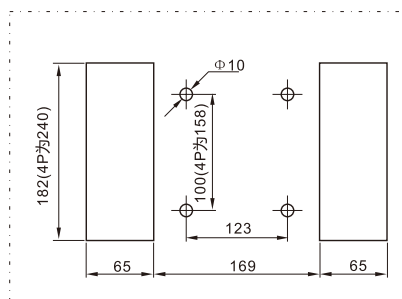
Remark: X-X, Y-Y is the center of 3-pole circuit breaker

- Chart of Fixed Rear Connection Installation Hole

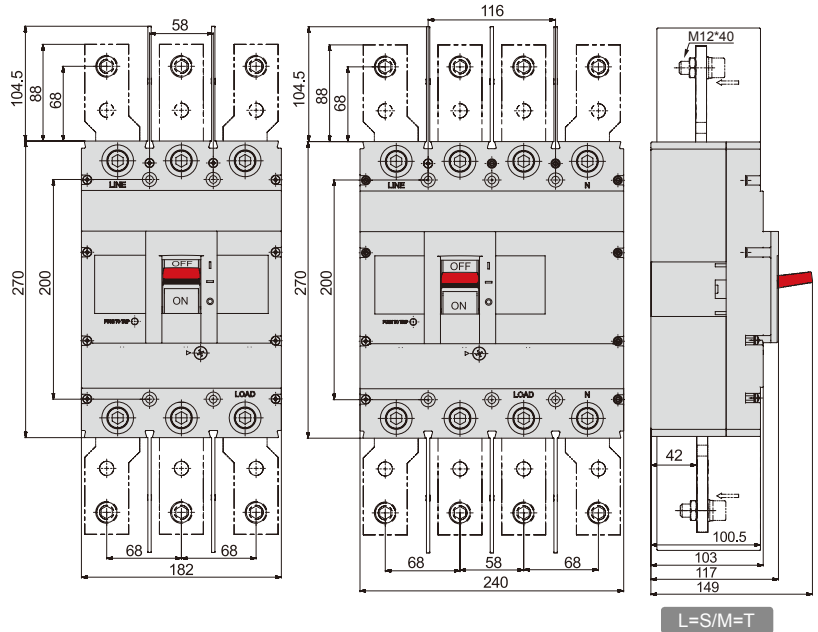


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

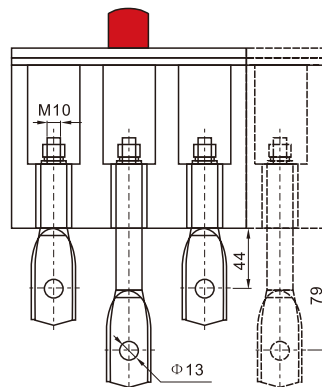
- Chart of Plug-in Rear Connection Installation Hole



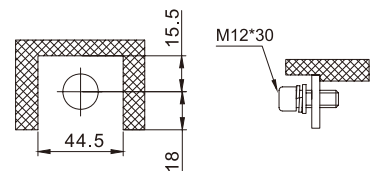
- Installation Dimension of Fixed Front Connection



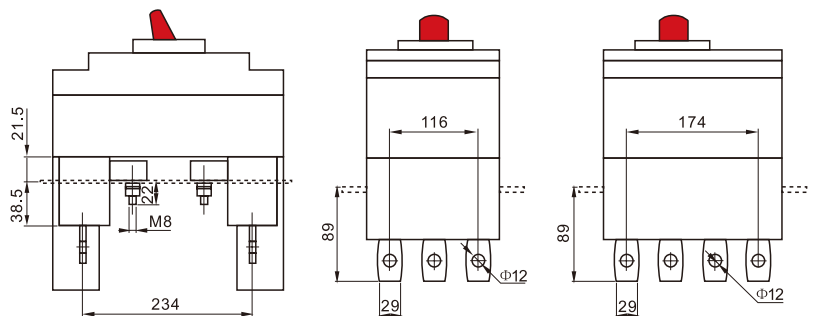
- Fixed Rear Connection Wiring



- Chart of Terminal Connection Installation Hole



- Plug-in Rear Connection Wiring



Low-voltage Distribution



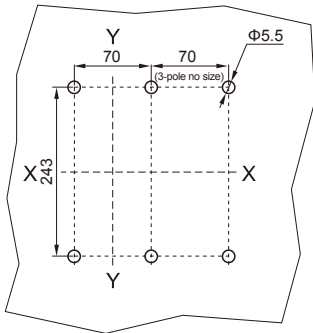
# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



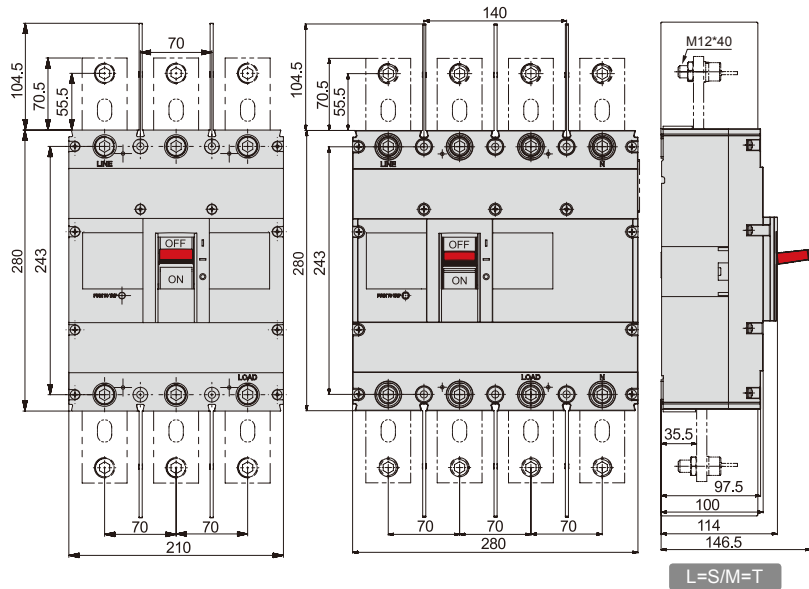
## HDM6s800 Installation Dimension

### ● Chart of Fixed Front Connection Installation Hole

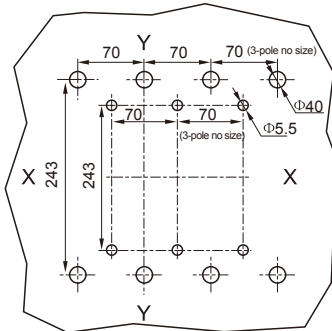


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

### ● Installation Dimension of Fixed Front Connection

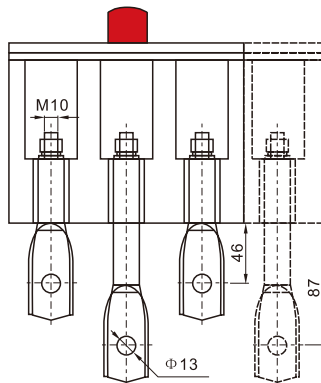


### ● Chart of Fixed Rear Connection Installation Hole

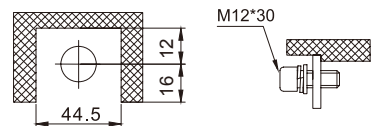


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

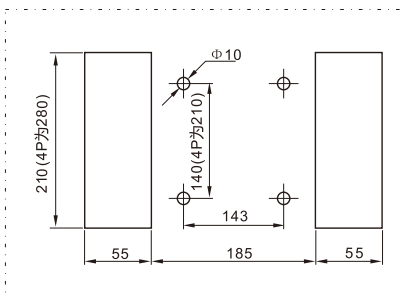
### ● Fixed Rear Connection Wiring



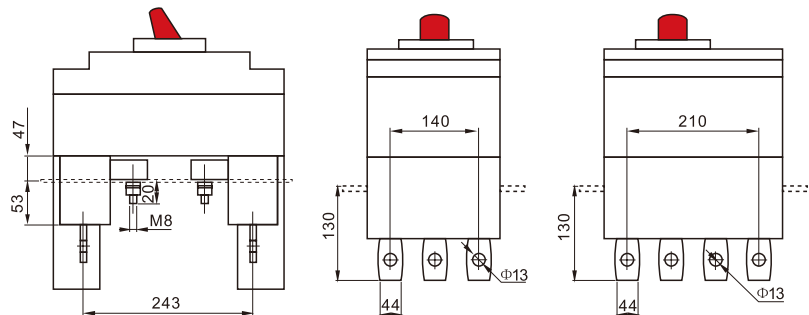
### ● Chart of Terminal Connection Installation Hole



### ● Chart of Plug-in Rear Connection Installation Hole

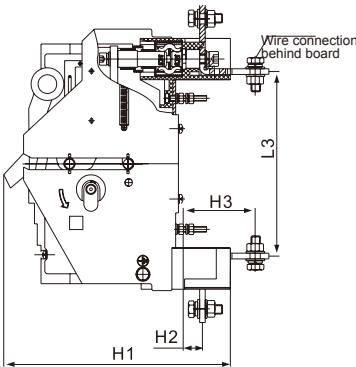
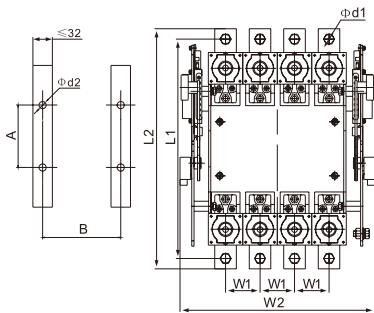
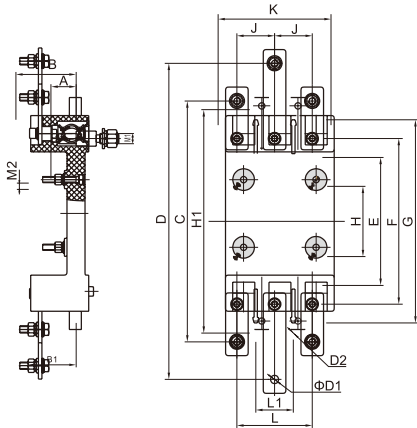


### ● Plug-in Rear Connection Wiring



# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



## ● Plug-in Front Connection Installation Dimension (HDM6s100 and HDM6s250)

Equipped with Circuit Breaker	Pole No.	Appearance and Installation Dimension (mm)								
		A	B	B1	C	D	E	F	G	H
HDM6s100	3P	20	48	39	195	252	102	132	162	56
	4P	20	48	39	195	252	102	132	162	56
HDM6s250	3P	23	53	42	204	304	108	144	180	54
	4P	23	53	42	204	304	108	144	180	54

Equipped with Circuit Breaker	Pole No.	Appearance and Installation Dimension (mm)								
		H1	J	K	L	L1	M1	M2	ΦD1	D2
HDM6s100	3P	178	30	90	60	30	M8	M5	Φ6.5	M5
	4P	178	30	120	90	60	M8	M5	Φ6.5	M5
HDM6s250	3P	196	35	107	70	35	M8	M5	Φ8.5	M5
	4P	196	35	142	105	70	M8	M5	Φ8.5	M5

## ● Drawer-out Rear Connection Base (HDM6s400, HDM6s630 and HDM6s800)

Equipped with Circuit Breaker	Pole No.	Appearance Dimension (mm)									Installation Dimension		
		L1	L2	L3	H1	H2	H3	W1	W2	Φd1	A	B	Φd2
HDM6s400	3P	311	340	205	253	17.5	77	44	211	Φ11	88	141	Φ6.5
	4P	311	340	205	253	17.5	77	44	255	Φ11	132	141	Φ6.5
HDM6s630	3P	341	381	211	282	17.5	92	58	253	Φ13	116	140	Φ6.5
	4P	341	381	211	282	17.5	92	58	311	Φ13	174	140	Φ6.5
HDM6s800	3P	367	410	241	238	26	73	70	289	Φ13	140	131	Φ6.5
	4P	367	410	241	238	26	73	70	359	Φ13	210	131	Φ6.5

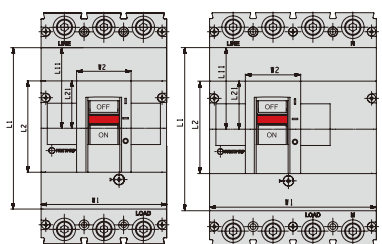
Low-voltage Distribution

# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2



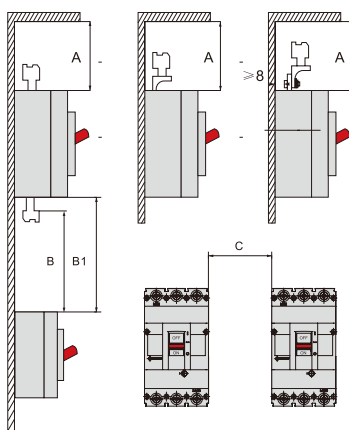
## ● HDM6s 63A-800A Fixed and Plug-in Circuit Breaker Connection Hole-opening Dimension



HDM6s 63A-800A 3P    HDM6s 63A-800A 4P

Type of Circuit Breaker	Pole No.	Exposure of Front Cover and Pull-out Handle			Exposure of Pull-out Handle Only		
		W1	L1	L11	W2	L2	L21
HDM6s63	3P	76	77	38.5	29	53	27
	4P	101	77	38.5	29	53	27
HDM6s100	3P	92	88	42	35	60	30
	4P	122	88	42	35	60	30
HDM6s250	3P	107	102	51	35	60	30
	4P	142	102	51	35	60	30
HDM6s400	3P	140	180	90	61	102	53
	4P	184	180	90	61	102	53
HDM6s630	3P	182	180	90	65	102	53
	4P	240	180	90	65	102	53
HDM6s800	3P	210	200	100	65	102	51
	4P	280	200	100	65	102	51

## ● Safety Distance

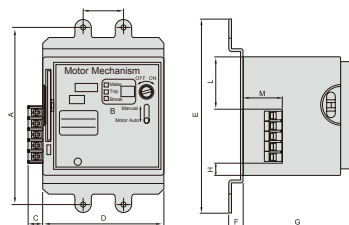


Type of Circuit Breaker	A(mm)	B(mm)	B1(mm)	C(mm)
HDM6s63	60	60	Length of Exposed Conductor + B	30
HDM6s100	60	60		30
HDM6s250	60	60		30
HDM6s400	110	110		70
HDM6s630	110	110		70
HDM6s800	110	110		70

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



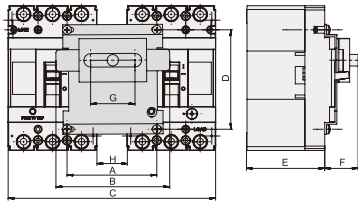
Type of Circuit Breaker	A	B	C	D	E	F	G	H	L	M
HDM6s63	117	25	11	76	128	2	80	8.5	38.5	28.5
HDM6s100	129	30	11	90	144	14	80	8.5	38.5	28.5
HDM6s250	126	35	11	104	138	13	80	8.5	38.5	28.5
HDM6s400	215	44	11	140	232	22	112	12	97.5	28.5
HDM6s630	200	58	11	140	216	17	112	12	97.5	28.5
HDM6s800	243	70	11	150	260	16	112	12	97.5	28.5

# HDM6s Molded Case Circuit Breaker

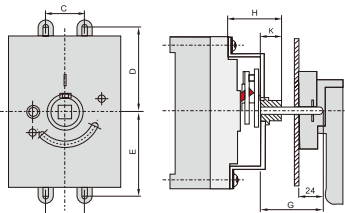
Standard: IEC 60947-2



## ● HDM6s63-800 Frame (3P) Mechanical Interlock Dimension



Type of Circuit Breaker	Breaking Capacity Level	A	B	C	D	E	F	G	H
HDM6s63	L,S	80	116.5	181	100	67.5	38	35.5	29
	M,T	80	116.5	181	100	76.5	38	35.5	29
HDM6s100	L,S	90	117	212	103	62.5	38	47	28
	M,T	90	117	212	103	81	38	47	28
HDM6s250	L,S	99	136	241	143	91.5	38	46	27
	M,T	99	136	241	143	99	38	46	27
HDM6s400	L/S/M/T	40	190	309.5	215	97.5	43	57	29.5
HDM6s630	L/S/M/T	62	239	415.5	199.5	100	43	55	51.5
HDM6s800	L/S/M/T	51	241	459	243	97.5	45.5	55	39



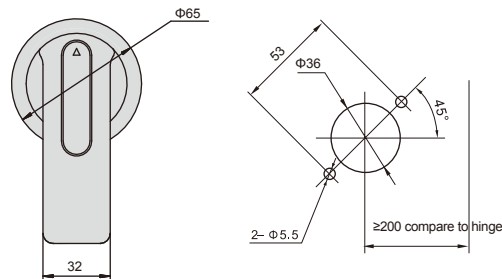
## ● HDM6s63-800 Frame Extension Rotary Handle Base Dimension

Type of Circuit Breaker	C	D	E	H	K
HDM6s63	25	50	50	52	20
HDM6s100	30	51.5	51.5	54	20
HDM6s250	35	71.5	71.5	56	20
HDM6s400	44	107.5	107.5	76	20
HDM6s630	58	100	100	74	20
HDM6s800	70	121.5	121.5	76	20

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

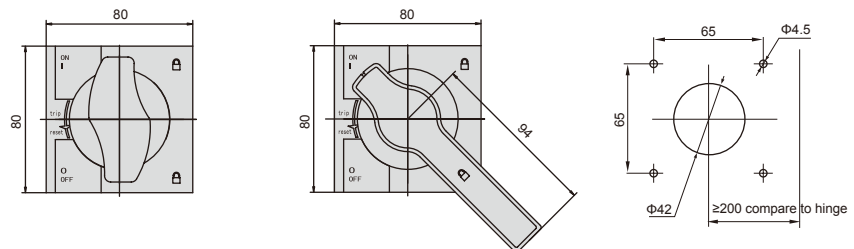
## ● HDM6s63-800 Frame Extension Rotary Handle

### Round



HDM6s63, HDM6s100 and HDM6s250 is 65 or 95 for option, the default value is 65.  
HDM6s400, HDM6s630 and HDM6s800 is 95 or 125 for option, the default value is 95.

### Square



HDM6s63, HDM6s100, HDM6s250

HDM6s400, HDM6s630, HDM6s800

Low-voltage Distribution

# HDM6s Molded Case Circuit Breaker

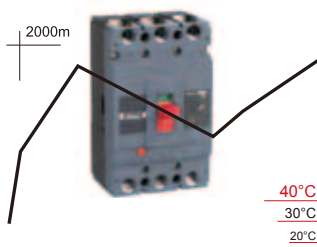
Standard: IEC 60947-2



## 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  $I_r$  setting value of the circuit breaker must be corrected as per the following factors.

Type of Circuit Breaker	Ambient Temperature °C				
	40	45	50	55	60
HDM6s 63	1	0.94	0.88	0.80	0.72
HDM6s 100	1	0.95	0.89	0.84	0.76
HDM6s 250	1	0.95	0.91	0.87	0.82
HDM6s 400	1	0.94	0.87	0.81	0.73
HDM6s 630	1	0.93	0.88	0.83	0.76
HDM6s 800	1	0.88	0.83	0.79	0.76



## Impact of Altitude on Tripping 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)	$I_n$	$0.96I_n$	$0.93I_n$	$0.9I_n$
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 Connection Wiring (Standard)	Rear Connection Wiring	Plug-in Wiring
HDM6s 63	63A	26	29	29
HDM6s 100	100A	40	50	50
HDM6s 250	250A	63	90	90
HDM6s 400	400A	103	110	130
HDM6s 630	630A	160	190	220
HDM6s 800	800A	200	230	290

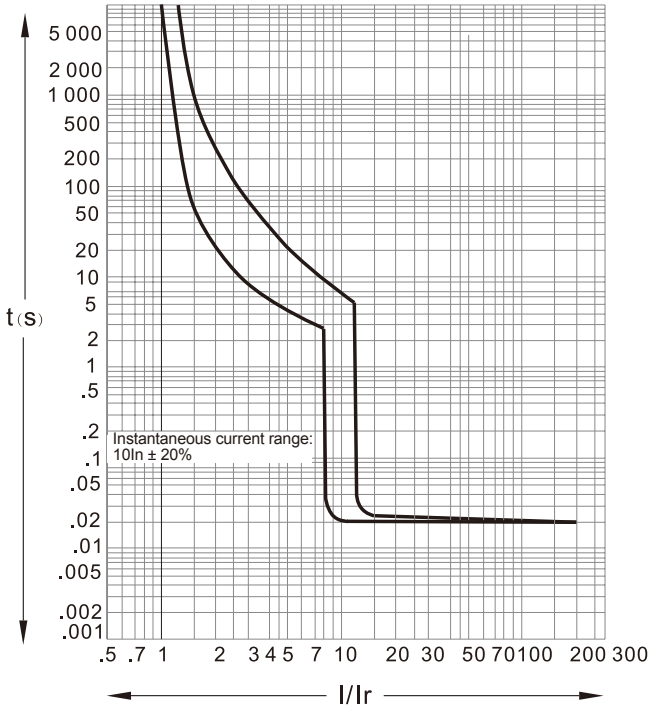
# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2

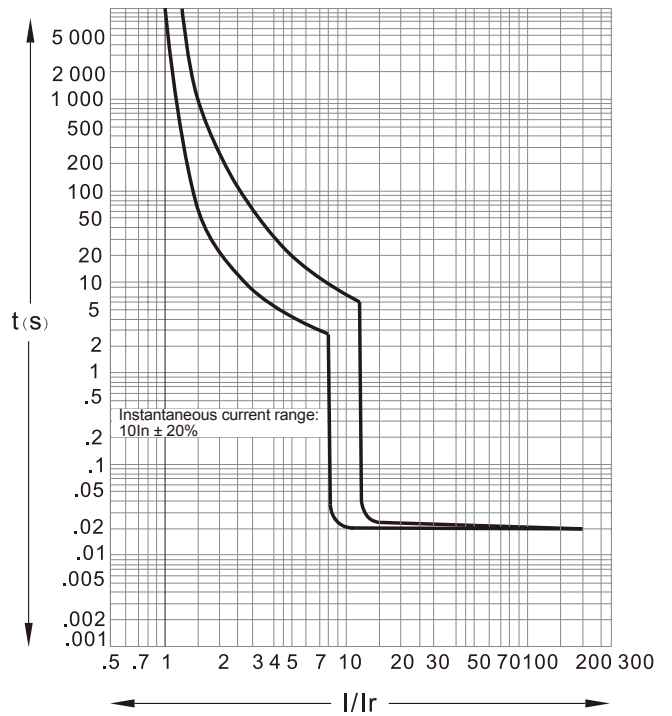


## Tripping Release Curve

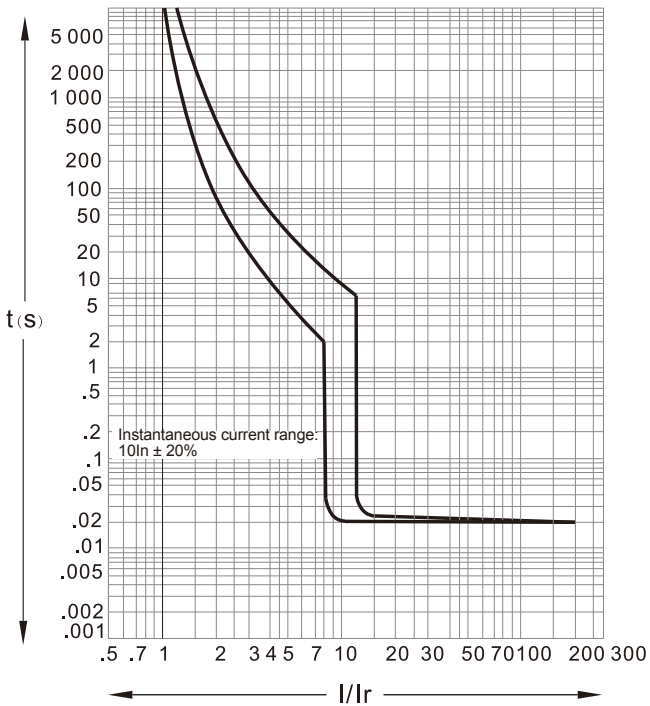
● HDM6s63 10A-63A, the black line is used for the distribution.



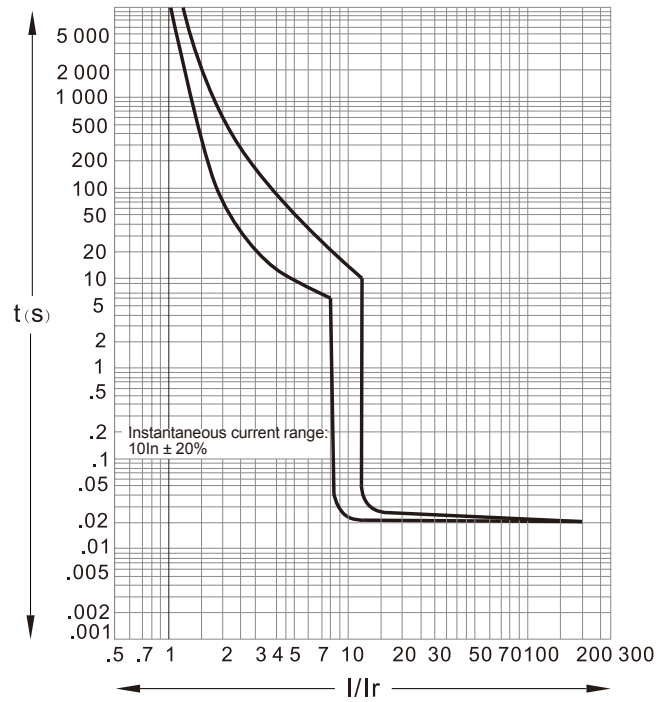
● HDM6s100 16A-50A, the black line is used for the distribution.



● HDM6s100 63A-100A, the black line is used for the distribution.



● HDM6s250 100A-250A, the black line is used for the distribution.



Low-voltage Distribution

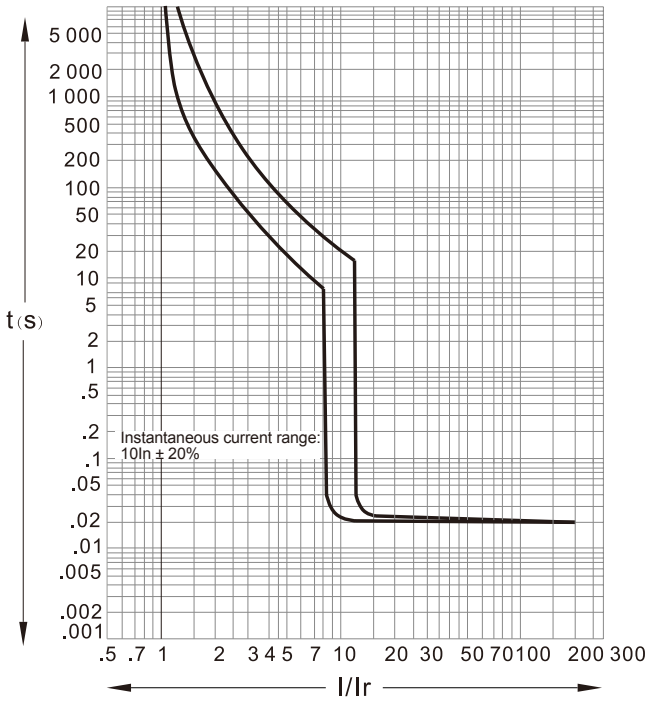
# HDM6s Molded Case Circuit Breaker

Standard: IEC 60947-2

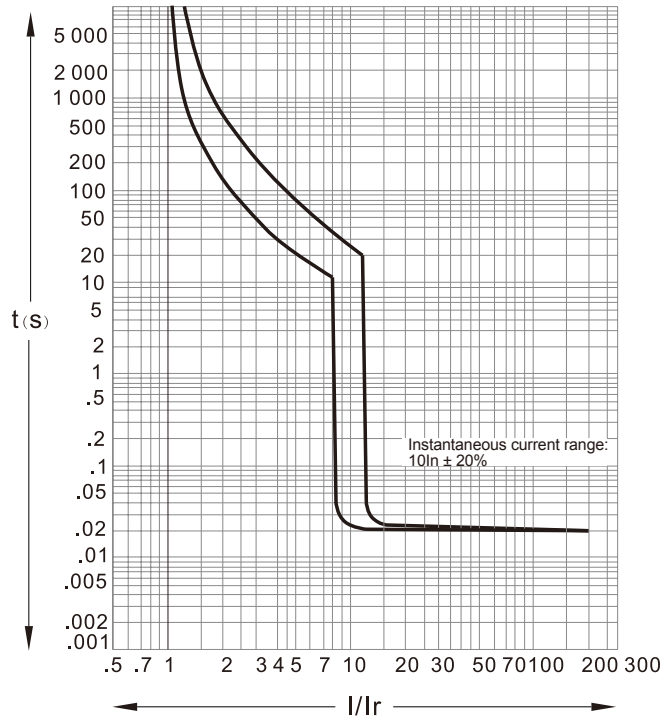


## Tripping Release Curve

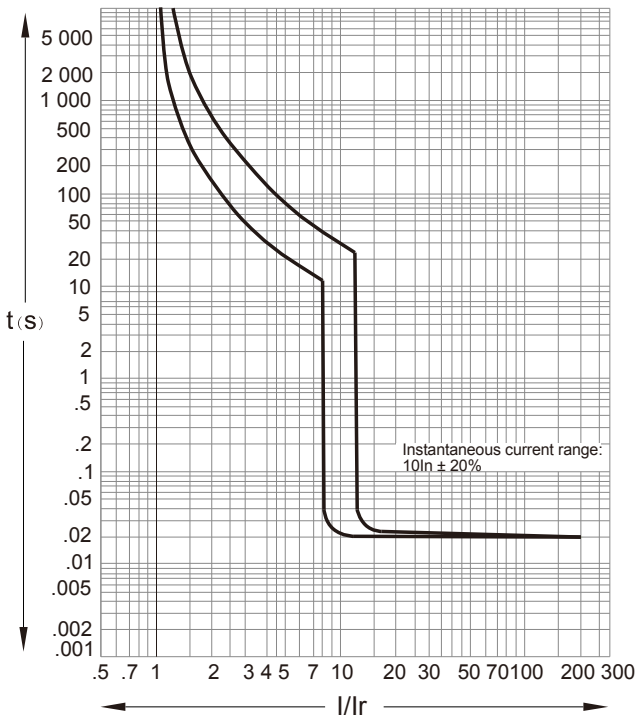
- HDM6s400 200A-400A, the black line is used for the power distribution.



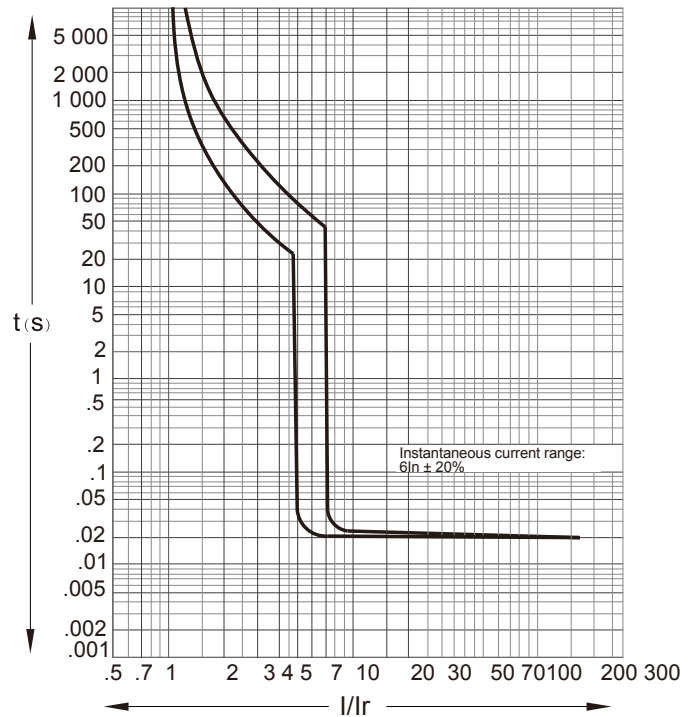
- HDM6s630 400A-630A is used for the power distribution.



- HDM6s800 400A-630A is used for the power distribution.



- HDM6s800 700A-800A is used for the power distribution.



# HDM6L Earth-Leakage Circuit Breaker





Standard: IEC 60947-2



## Coding System

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
100:100AF	L:L type 40,50,63,80,100			3:3P	X:No Accessory	X:AC400V;NO Accessory voltage; Leakage module voltage AC400V	Y:30/100/500mA (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. 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) 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 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	M:MX	N:AC230V;internal accessory AC230V; Leakage module AC230V	T:100/300/500mA (100AF, 250AF, 400AF, 630AF)	R:fix-type behind the board
400:400AF	200,225,250,315,350,400				O:OF	D:DC24V	F:300/500/1000mA (400AF, 630AF)	P:insert-type behind the board
630:630AF	400,500,630				N:MN F:OF+OF S:SD D:OF+S 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	1:Internal accessory AC400V; Leakage module AC230V 2: Internal accessory AC230V;Leakage module AC400V 3:Internal accessory DC24V;Leakage module AC400V 4:Internal accessory DC24V;Leakage module AC230V		

## Order Information

Type	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		
		80	HDM6L100L803XX*F	HDM6L100M803XX*F		
		100	HDM6L100L1003XX*F	HDM6L100M1003XX*F		
	4	40	HDM6L100L404XX*F	HDM6L100M404XX*F		
		50	HDM6L100L504XX*F	HDM6L100M504XX*F		
		63	HDM6L100L634XX*F	HDM6L100M634XX*F		
		80	HDM6L100L804XX*F	HDM6L100M804XX*F		
		100	HDM6L100L1004XX*F	HDM6L100M1004XX*F		
		 HDM6L-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		
4	225		HDM6L250L2253XX*F	HDM6L250M2253XX*F		
	250		HDM6L250L2503XX*F	HDM6L250M2503XX*F		
	100		HDM6L250L1004XX*F	HDM6L250M1004XX*F		
	125		HDM6L250L1254XX*F	HDM6L250M1254XX*F		
	160		HDM6L250L1604XX*F	HDM6L250M1604XX*F		
 HDM6L-400	3	180	HDM6L250L1804XX*F	HDM6L250M1804XX*F		
		200	HDM6L250L2004XX*F	HDM6L250M2004XX*F		
		225	HDM6L250L2254XX*F	HDM6L250M2254XX*F		
		250	HDM6L250L2504XX*F	HDM6L250M2504XX*F		
		200	HDM6L400L2003XX*F	HDM6L400M2003XX*F		
	4	225	HDM6L400L2253XX*F	HDM6L400M2253XX*F		
		250	HDM6L400L2503XX*F	HDM6L400M2503XX*F		
		315	HDM6L400L3153XX*F	HDM6L400M3153XX*F		
		350	HDM6L400L3503XX*F	HDM6L400M3503XX*F		
		400	HDM6L400L4003XX*F	HDM6L400M4003XX*F		
		200	HDM6L400L2004XX*F	HDM6L400M2004XX*F		
		225	HDM6L400L2254XX*F	HDM6L400M2254XX*F		
 HDM6L-630	3	250	HDM6L400L2504XX*F	HDM6L400M2504XX*F		
		315	HDM6L400L3154XX*F	HDM6L400M3154XX*F		
		350	HDM6L400L3504XX*F	HDM6L400M3504XX*F		
	4	400	HDM6L400L4004XX*F	HDM6L400M4004XX*F		
		400	HDM6L630L4003XX*F	HDM6L630M4003XX*F		
		500	HDM6L630L5003XX*F	HDM6L630M5003XX*F		
		630	HDM6L630L6303XX*F	HDM6L630M6303XX*F		
		400	HDM6L630L4004XX*F	HDM6L630M4004XX*F		
		500	HDM6L630L5004XX*F	HDM6L630M5004XX*F		
		360	HDM6L630L6304XX*F	HDM6L630M6304XX*F		

Note:\* express residual current

Low-voltage Distribution



# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

CE



## Technical Data

Thermo-adjustable

Basic Information(IEC60947-2)

Frame Size AF

Number of Poles

Breaking Capacity Level

Rated Ultimate Short-circuit Breaking Capacity Icu(kA rms)

Rated Service Short-circuit Breaking Capacity Ics(kA rms)

Mechanical Endurance

Electrical Endurance

On-Off Cycle

Tripping Unit

Rated Current(A) In

Accessory

Indication Accessories

OF

SD

Control Accessories

MX(AC400,230V,DC220V)

MN(AC400,230V)

Extended Rotary Handle(Round and Square)

AC Motor Mechanism(AC400,230V)

Mounting&Connection

Fixed,Rear Connection

Plug-in,Rear Connection

Connection

Spreader

Protection

Phase Barrier

Installation Information

	100				250				400				630			
	3P		4P		3P		4P		3P		4P		3P		4P	
	L	M	L	M	L	M	L	M	L	M	L	M	L	M	L	M
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	8500				7000				4000				4000			
Electrical Endurance	1500				1000				1000				1000			
Tripping Unit																
Rated Current(A) In	40/50/63/80/100				100/125/160/180/200/225/250				200/225/250/315/350/400				400/500/630			
Accessory																
Indication Accessories																
OF			■				■				■				■	
SD			■				■				■				■	
Control Accessories																
MX(AC400,230V,DC220V)			■				■				■				■	
MN(AC400,230V)			■				■				■				■	
Extended Rotary Handle(Round and Square)			■				■				■				■	
AC Motor Mechanism(AC400,230V)			■				■				■				■	
Mounting&Connection																
Fixed,Rear Connection			■				■				■				■	
Plug-in,Rear Connection			■				■				■				■	
Connection																
Spreader			■				■				■				■	
Protection																
Phase Barrier			■				■				■				■	
Installation Information	See Page 94				See Page 95				See Page 96				See Page 97			

"■" shows it has this option

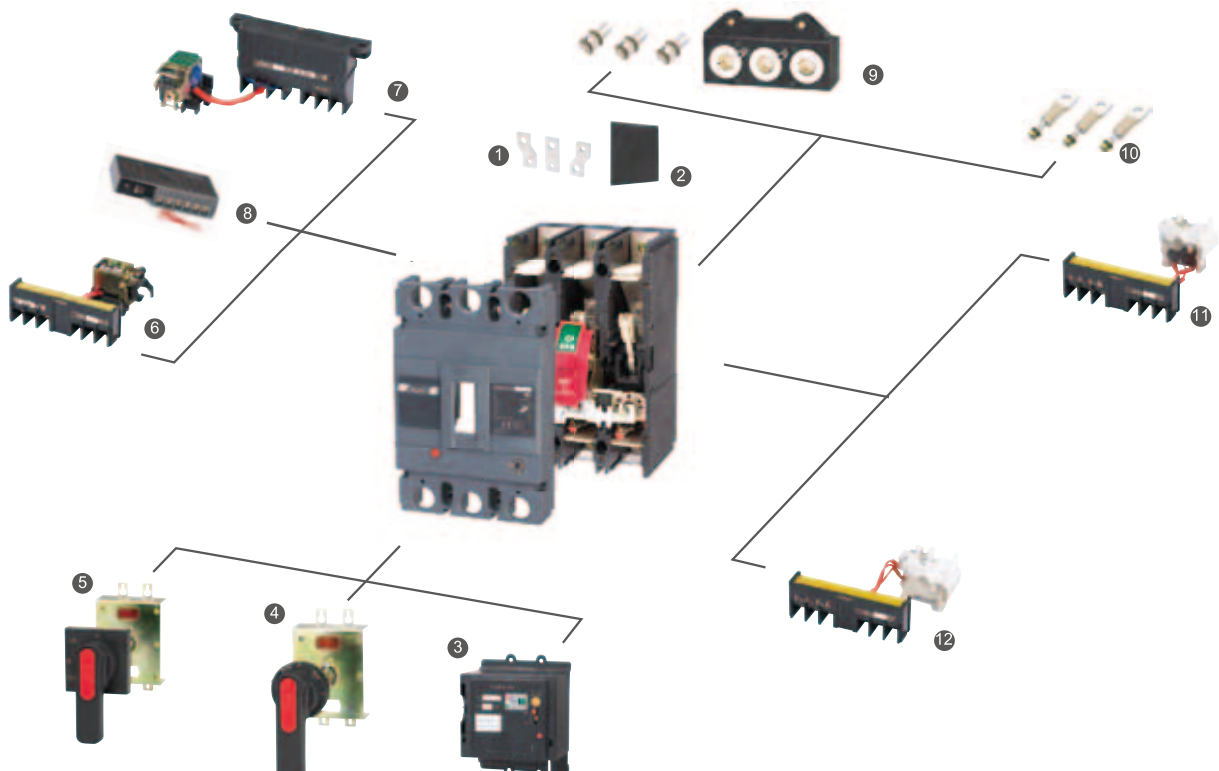
# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2



## Basic Technical Data

- Rated Insulation Voltage  $U_i$ , AC 800V
- Rated Impulse Withstand Voltage  $U_{imp}$ , 8KV
- Rated Working Voltage  $U_e$ , AC 400V
- Rated Operational Frequency, 50Hz
- Utilization Category, A



Low-voltage Distribution

## 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 Extended Rotary Handle	9	Plug-in Rear Connection		
5	Square Extended Rotary Handle	10	Fixed Rear Connection		

# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

CE

## Trip unit function

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.



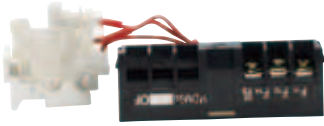
# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2



## Complete Accessories of HDM6L Series

### Indicating Accessories



- Auxiliary Contact(OF):  
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:
  - Overload or short-circuit fault
  - Residual earth-leakage fault
  - Artificial Testing Release
  - Shunt Trip Release
  - Line Fault and Under-voltage Release Tripping



Accessory Name	Switch-on/off	Tripping
----------------	---------------	----------



Accessory Name	Switch-on/off	Tripping
----------------	---------------	----------



### Electrical Parameter of OF&SD

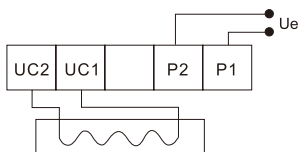
Rated Thermal Current(A)	3A	
	AC15	DC13
Utilization Category	0.3A	-
Working Current 50Hz AC400V	-	0.15A
DC220V	-	-



### 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

Undervoltage Release Wiring



Applicable Type of Circuit Breaker	Power Consumption 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

Low-voltage Distribution

# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2



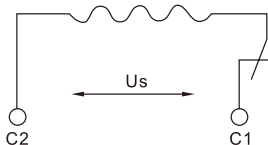
## Complete Accessories of HDM6L Series

### ● Shunt Release(MX)

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



Shunt Release Wiring



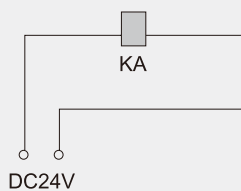
Applicable Type of Circuit Breaker	Power Consumption of Under—voltage Coil(W)		
	AC400V	AC230V	DC24V
HDM6L100	96.8	73	91.2
HDM6L250	112	68.6	85.3
HDM6L400	67	62.3	100
HDM6L630	163	153	120

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

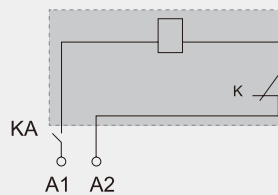
Control Supply Voltage(DC24V)	Conductor Area Rated	
	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>
100%Us	150m	250m
85%Us	100m	160m

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

Schematic Diagram of Shunt release in dotted -line box



KA: it is DC24V Intermediate Relay, and the current capacity of the electric shock is 1A.

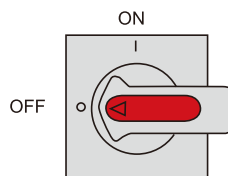
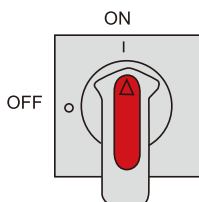


Power Input  
The voltage specification of the power input  
AC50Hz 230V, 400V;



### ● Extended Rotary Handle

- Function:indication of the three positions of switch—on,switch—off and trip
- The circuit breaker cannot be switch—on when the switch board door is open
- 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.
- The OFF—Position of the circuit breaker can han9 1—3 locks with the diameter of 5 mm



# HDM6L Earth-Leakage Circuit Breaker

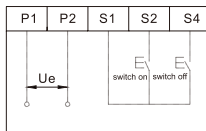
Standard: IEC 60947-2

CE

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

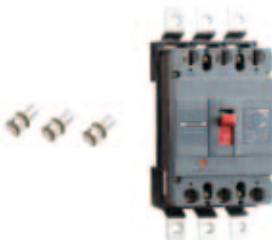


## Connection Accessories

- 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.



Low-voltage Distribution

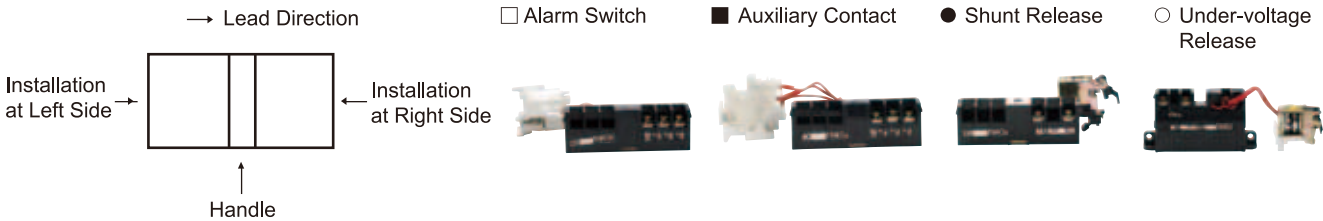
# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

CE

## Installation Location of Accessories

Installation Method for Tripping Release and Accessories Code



Name of Accessory	Product Type		
	HDM6L100/250	HDM6L400	HDM6L630
Alarm Switch			
Shunt Release			
Auxiliary Contact			
Undervoltage Release			
Two Group Auxiliary Contact			
Auxiliary Contact Alarm Switch			

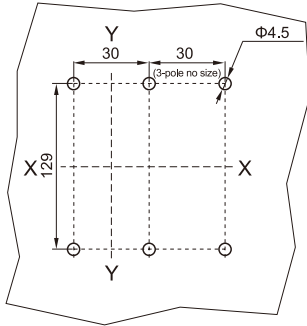
# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

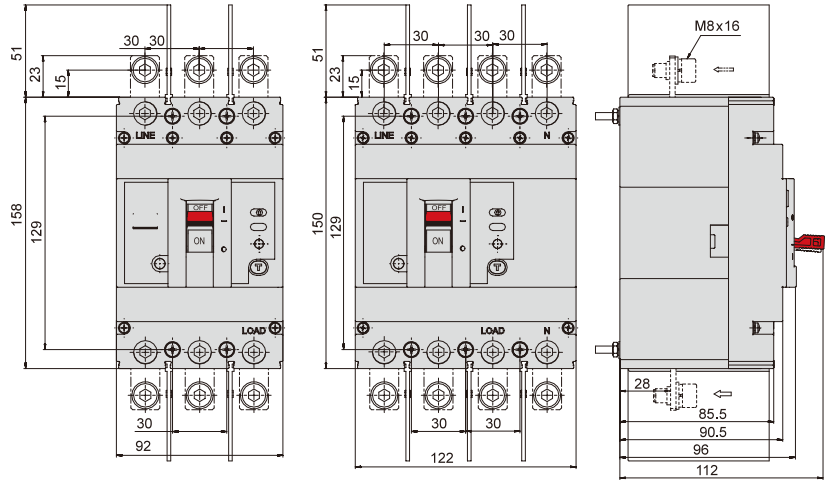


## HDM6L 100AF Installation Dimension

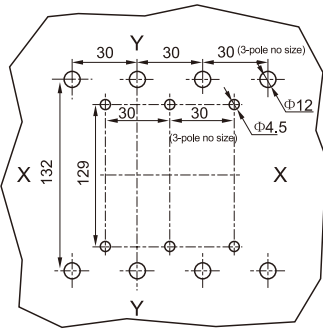
- Chart of Fixed Front Connection Installation Hole
- Installation Dimension of Fixed Front Connection



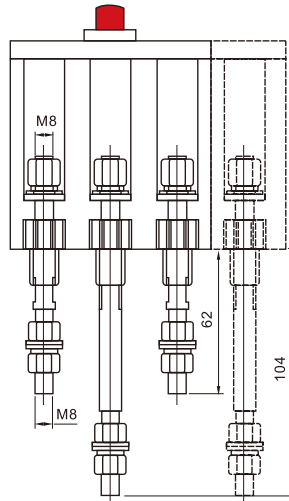
Remark: X-X, Y-Y is the center of 3-pole circuit breaker



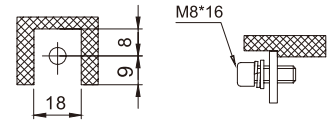
- Chart of Fixed Rear Connection Installation Hole
- Fixed Rear Connection Wiring



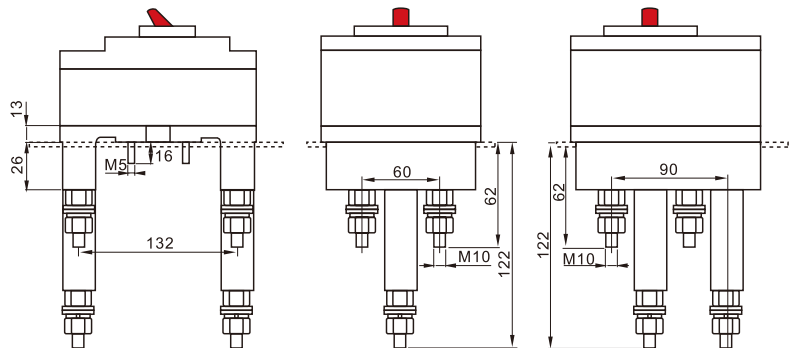
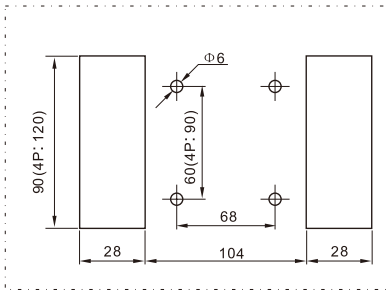
Remark: X-X, Y-Y is the center of 3-pole circuit breaker



- Chart of Terminal Connection Installation Hole



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



Low-voltage Distribution



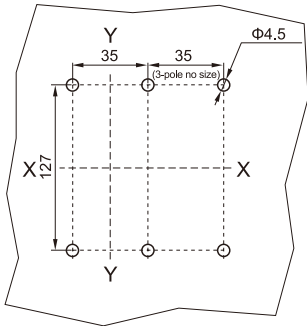
# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2



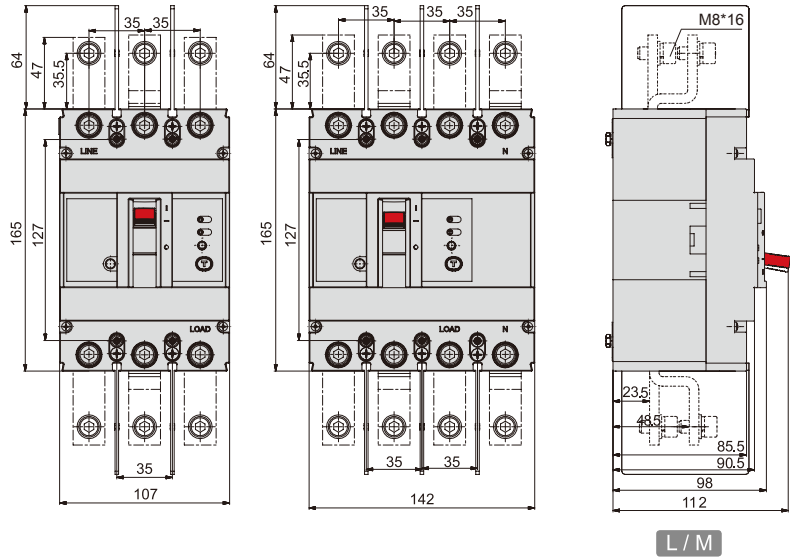
## HDM6L 250AF Installation Dimension

- Chart of Fixed Front Connection Installation Hole

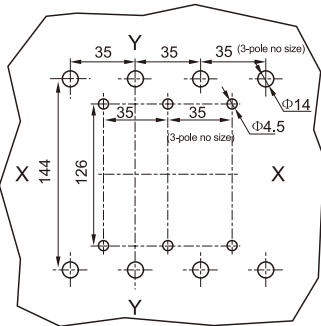


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

- Installation Dimension of Fixed Front Connection

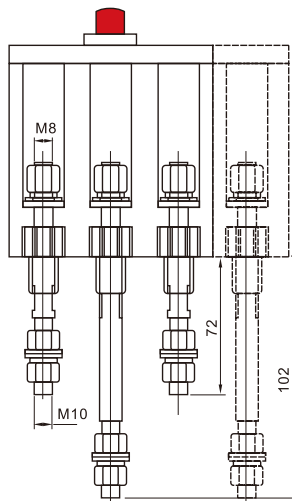


- Chart of Fixed Rear Connection Installation Hole

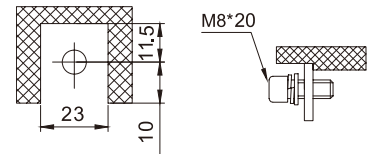


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

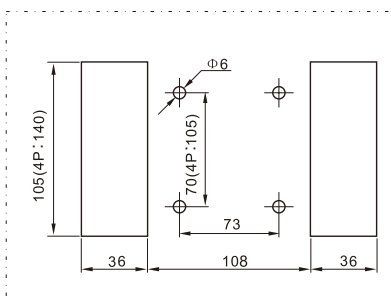
- Fixed Rear Connection Wiring



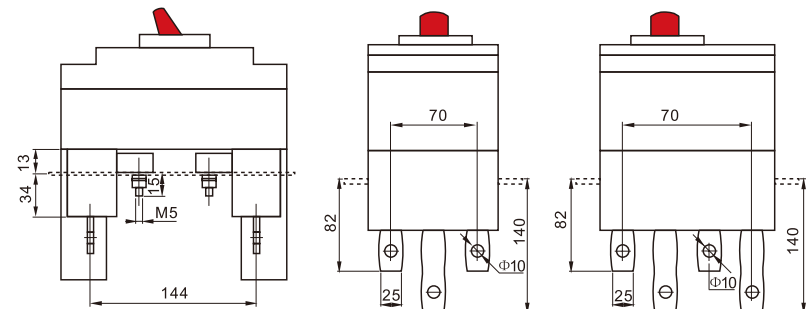
- Chart of Terminal Connection Installation Hole



- Chart of Plug-in Rear Connection Installation Hole



- Plug-in Rear Connection Wiring



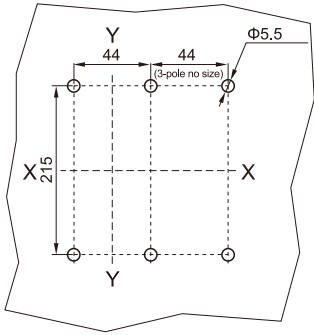
# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

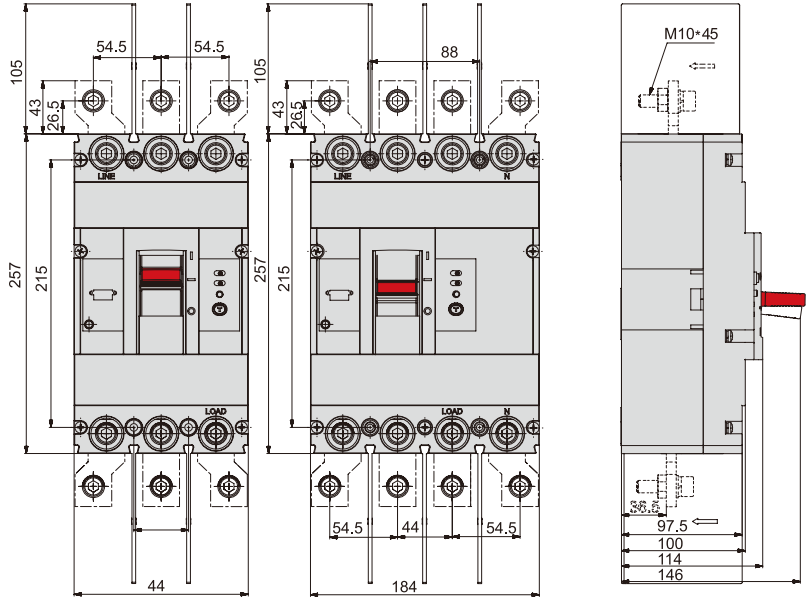


## HDM6L 400AF Installation Dimension

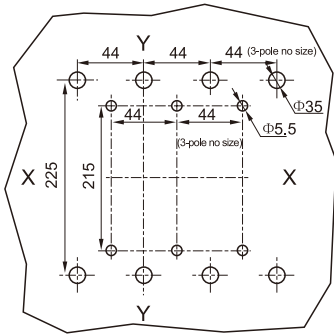
- Chart of Fixed Front Connection Installation Hole
- Installation Dimension of Fixed Front Connection



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

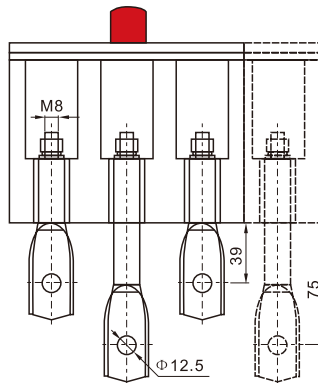


- Chart of Fixed Rear Connection Installation Hole

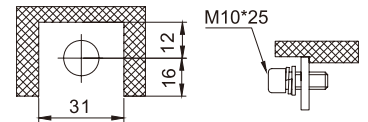


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

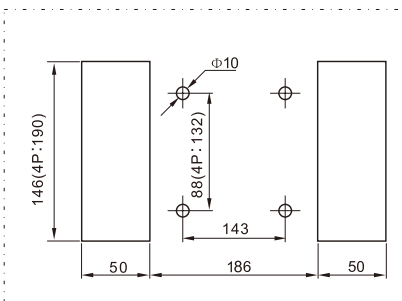
- Fixed Rear Connection Wiring



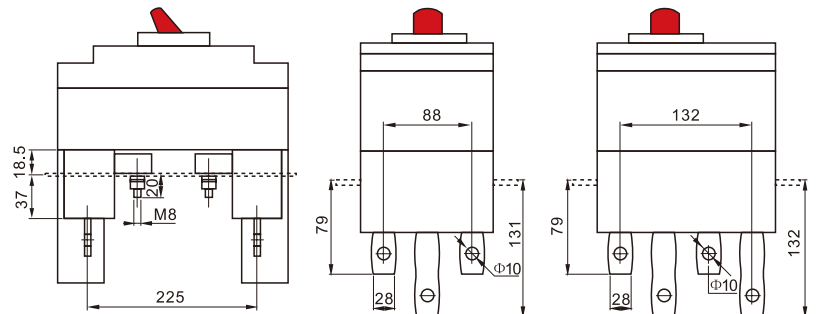
- Chart of Terminal Connection Installation Hole



- Chart of Plug-in Rear Connection Installation Hole



- Plug-in Rear Connection Wiring



Low-voltage Distribution

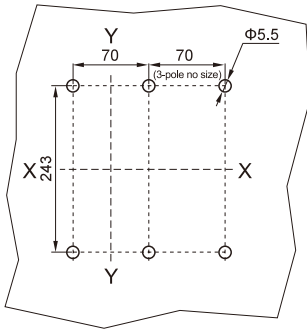
# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2



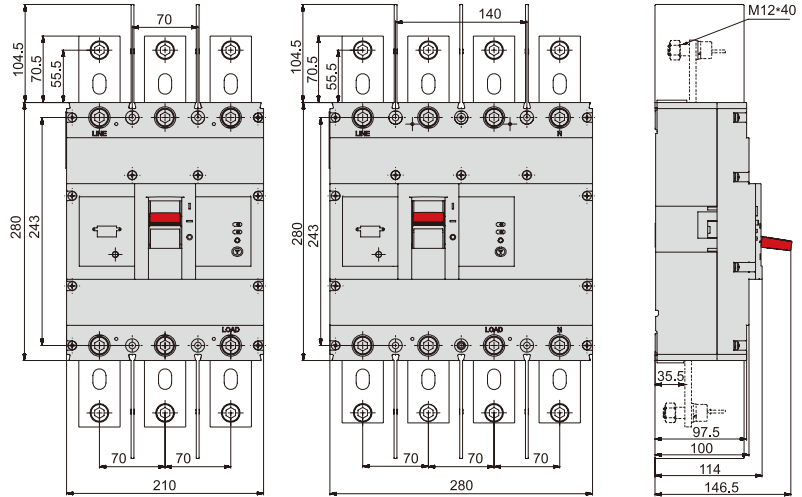
## HDM6L 630AF Installation Dimension

- Chart of Fixed Front Connection Installation Hole

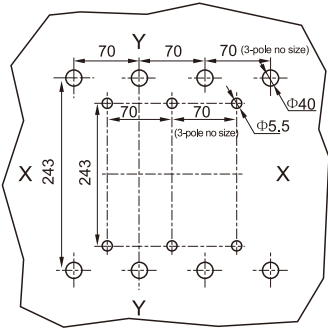


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

- Installation Dimension of Fixed Front Connection

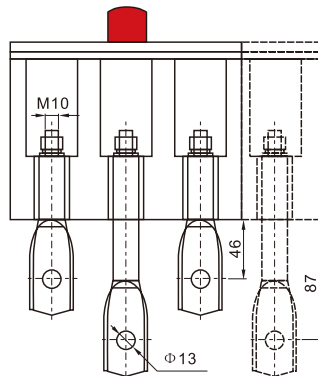


- Chart of Fixed Rear Connection Installation Hole

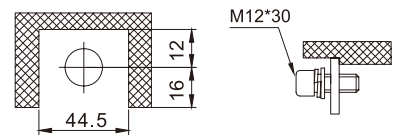


Remark: X-X, Y-Y is the center of 3-pole circuit breaker

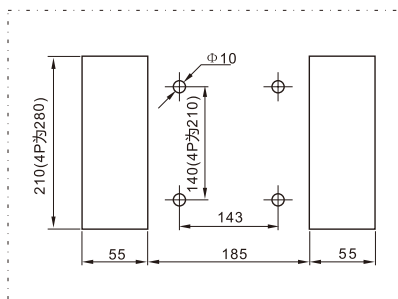
- Fixed Rear Connection Wiring



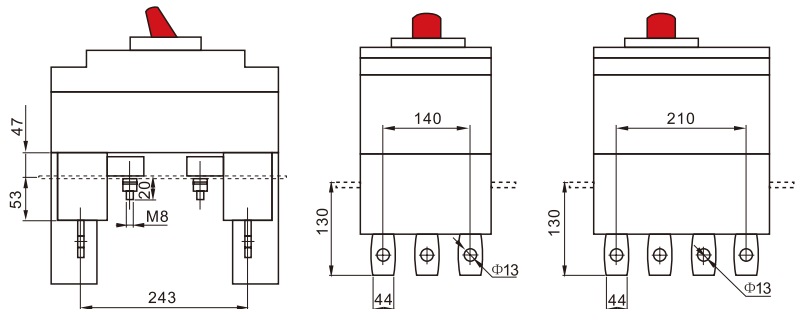
- Chart of Terminal Connection Installation Hole



- Chart of Plug-in Rear Connection Installation Hole



- Plug-in Rear Connection Wiring

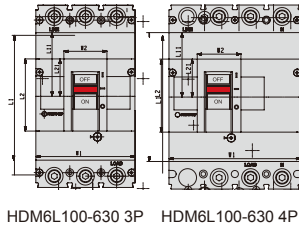


# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

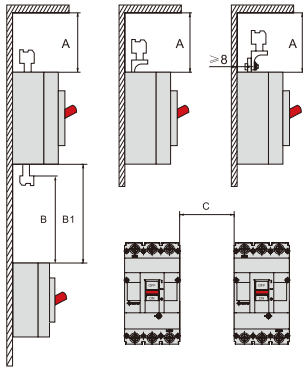


## • HDM6L Earth—Leakage circuit Breaker connection Hole-opening Dimension



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

## • Safety Distance

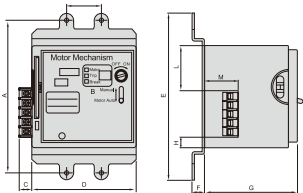


Type of Circuit Breaker	A(mm)	B(mm)	B1(mm)	C(mm)
HDM6L100AF	60	60	Length of Exposed Conductor +B	30
HDM6L250AF	60	60		30
HDM6L400AF	110	110		70
HDM6L630AF	110	110		70

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	A	B	C	D	E	F	G	H	L	M
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

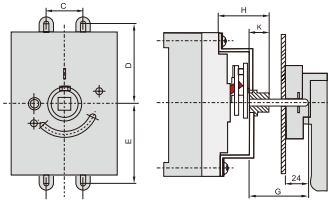
Low-voltage Distribution

# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2



## • HDM6L100—630 Frame Extension Rotary Handle Base Dimension

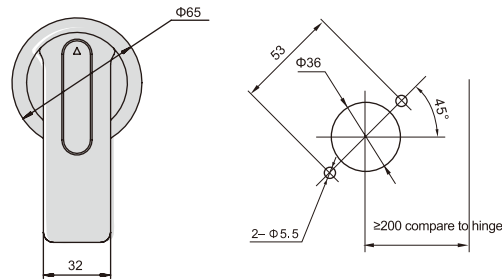


Type of Circuit Breaker	C	D	E	H	K
HDM6L100AF	30	51.5	51.5	54	20
HDM6L250AF	35	71.5	71.5	56	20
HDM6L400AF	44	107.5	107.5	76	20
HDM6L630AF	70	121.5	121.5	76	20

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.

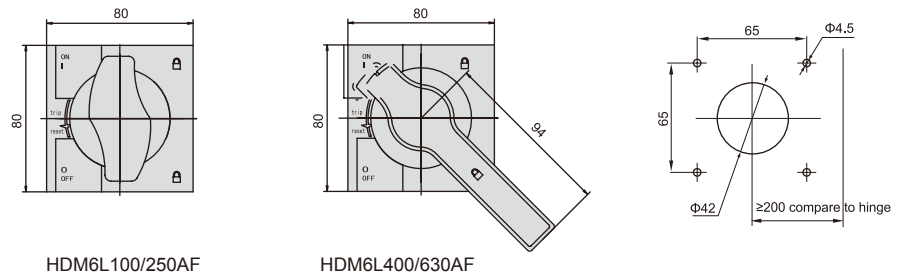
## • HDM6L100—630 Frame Extension Rotary Handle

### Round



HDM6L100 and HDM6L250 is 65 or 95 for option, the default value is 65.  
HDM6L400, HDM6L630 is 95 or 125 for option, the default value is 95.

### Square



HDM6L100/250AF

HDM6L400/630AF

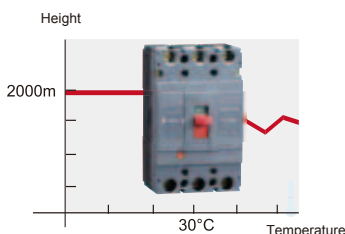
# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2



## 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  $I_r$  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 Tripping 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)	$I_n$	$0.96I_n$	$0.93I_n$	$0.96I_n$
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 Connection Wiring(Standard)	Rear Connection Wiring	Plug-in Wiring
HDM6L100AF	100A	40	50	50
HDM6L250AF	250A	63	90	90
HDM6L400AF	400A	103	110	130
HDM6L630AF	800A	200	230	290

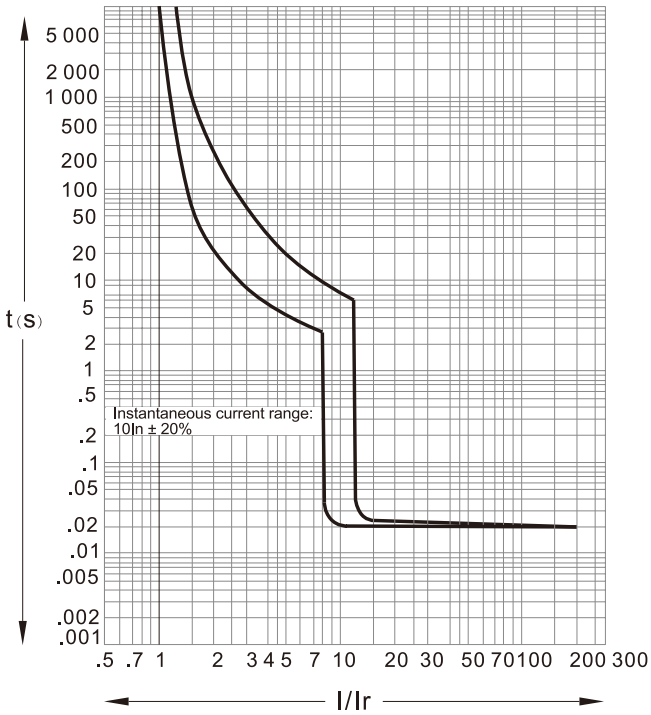
# HDM6L Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

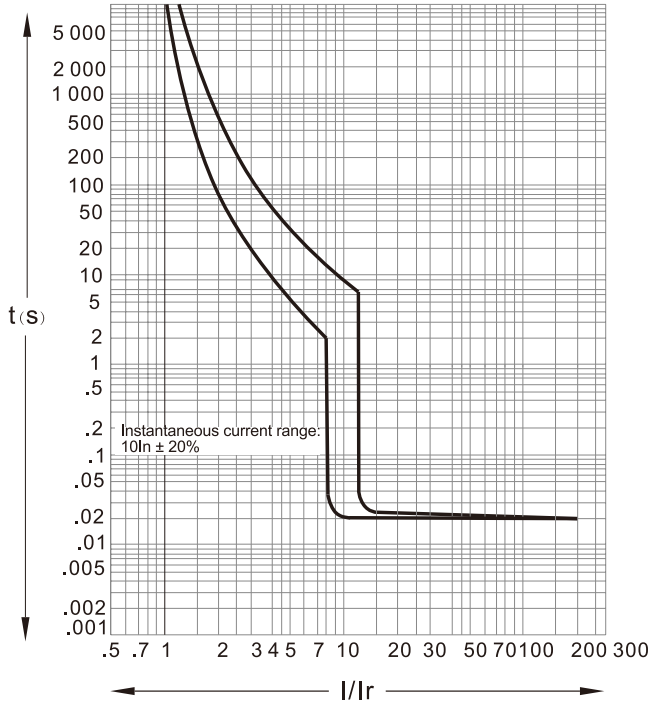


## Tripping Release Curve

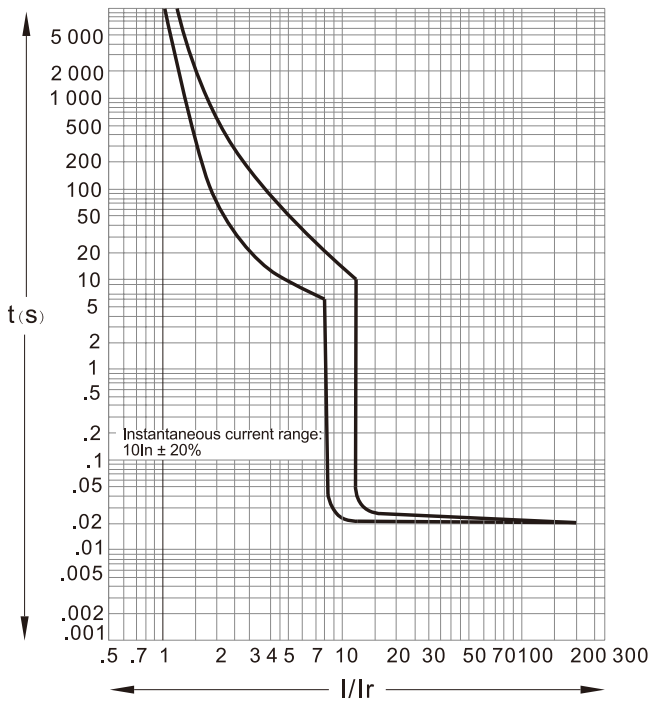
- HDM6L-100 16A-50A, the black line is used for the distribution



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



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

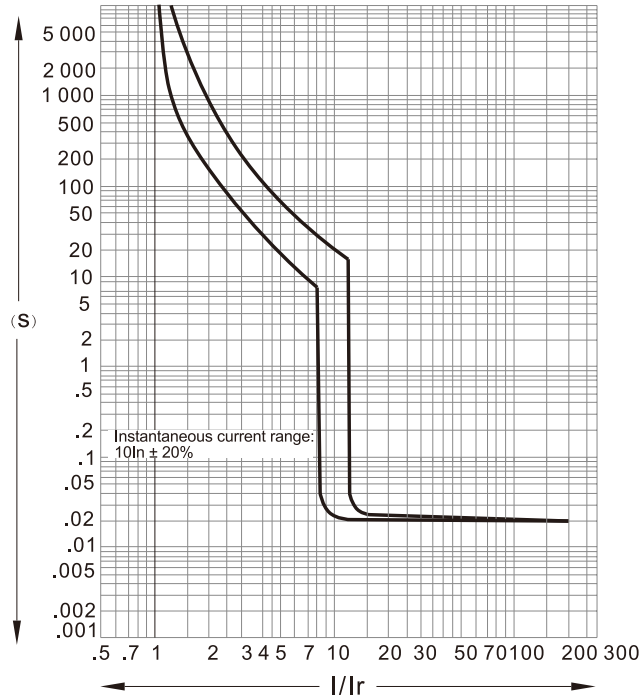


# HDM6L Earth-Leakage Circuit Breaker

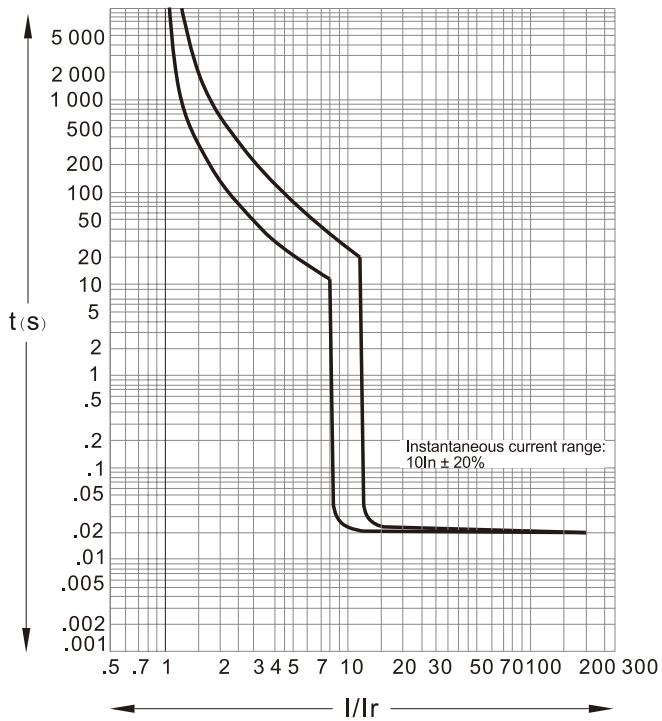
Standard: IEC 60947-2

## 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.



Low-voltage Distribution



# HDM1 Molded Case Circuit Breaker

Standard: IEC 60947-2



## Function

HDM1 Molded case circuit breaker provide:

- Provide protection for indirect contact.
- To protect power line and equipments against overload, undervoltage and short-circuit faults ( $I_n \leq 400A$ )
- Under normal circumstances can be as infrequent line conversion and motor frequent start.

## Order Information

Type	In A	Reference		
		Type M	Type L	
HDM1-63	3P	10	HDM163M103	HDM163L103
		16	HDM163M163	HDM163L163
		20	HDM163M203	HDM163L203
		25	HDM163M253	HDM163L253
		32	HDM163M323	HDM163L323
		40	HDM163M403	HDM163L403
		50	HDM163M503	HDM163L503
	63	HDM163M633	HDM163L633	
	4P	10	HDM163M104	--
		16	HDM163M164	--
		20	HDM163M204	--
		25	HDM163M254	--
		32	HDM163M324	--
		40	HDM163M404	--
50		HDM163M504	--	
HDM1-100	2P	16	HDM1100M162	--
		20	HDM1100M202	--
		25	HDM1100M252	--
		32	HDM1100M322	--
		40	HDM1100M402	--
		50	HDM1100M502	--
		63	HDM1100M632	--
	80	HDM1100M802	--	
	100	HDM1100M1002	--	
	3P	16	HDM1100M163	HDM1100L163
		20	HDM1100M203	HDM1100L203
		25	HDM1100M253	HDM1100L253
		32	HDM1100M323	HDM1100L323
		40	HDM1100M403	HDM1100L403
50		HDM1100M503	HDM1100L503	
63		HDM1100M633	HDM1100L633	
80	HDM1100M803	HDM1100L803		
100	HDM1100M1003	HDM1100L1003		
4P	16	HDM1100M164	--	
	20	HDM1100M204	--	
	25	HDM1100M254	--	
	32	HDM1100M324	--	
	40	HDM1100M404	--	
	50	HDM1100M504	--	
	63	HDM1100M634	--	
80	HDM1100M804	--		
100	HDM1100M1004	--		



# HDM1 Molded Case Circuit Breaker

Standard: IEC 60947-2



## Order Information



Type	In A	Reference		
		Type M	Type L	
HDM1-225	2P	100	HDM1225M1002	--
		125	HDM1225M1252	--
		160	HDM1225M1602	--
		180	HDM1225M1802	--
		200	HDM1225M2002	--
		225	HDM1225M2252	--
	3P	100	HDM1225M1003	HDM1225L1003
		125	HDM1225M1253	HDM1225L1253
		160	HDM1225M1603	HDM1225L1603
		180	HDM1225M1803	HDM1225L1803
		200	HDM1225M2003	HDM1225L2003
		225	HDM1225M2253	HDM1225L2253
	4P	100	HDM1225M1004	--
		125	HDM1225M1254	--
		160	HDM1225M1604	--
		180	HDM1225M1804	--
		200	HDM1225M2004	--
		225	HDM1225M2254	--
HDM1-400	3P	200	HDM1400M2003	HDM1400L2003
		225	HDM1400M2253	HDM1400L2253
		250	HDM1400M2503	HDM1400L2503
		315	HDM1400M3153	HDM1400L3153
		350	HDM1400M3503	HDM1400L3503
		400	HDM1400M4003	HDM1400L4003
	4P	200	HDM1400M2004	--
		215	HDM1400M2254	--
		250	HDM1400M2504	--
		315	HDM1400M3154	--
		350	HDM1400M3504	--
		400	HDM1400M4004	--
HDM1-630	3P	400	HDM1630M4003	HDM1630L4003
		500	HDM1630M5003	HDM1630L5003
		630	HDM1630M6303	HDM1630L6303
	4P	400	HDM1630M4004	--
		500	HDM1630M5004	--
		630	HDM1630M6304	--
HDM1-800	3P	400	HDM1800M4003	HDM1800L4003
		500	HDM1800M5003	HDM1800L5003
		630	HDM1800M6303	HDM1800L6303
		700	HDM1800M7003	HDM1800L7003
		800	HDM1800M8003	HDM1800L8003
	4P	400	HDM1800M4004	--
		500	HDM1800M5004	--
		630	HDM1800M6304	--
HDM1-1250	3P	700	HDM11250M7003	--
		800	HDM11250M8003	--
		1000	HDM11250M10003	--
		1250	HDM11250M12503	--

Note: The connection mode for HDM1 is the fixed type front connection.

Low-voltage Distribution

# HDM1 Molded Case Circuit Breaker

Standard: IEC 60947-2

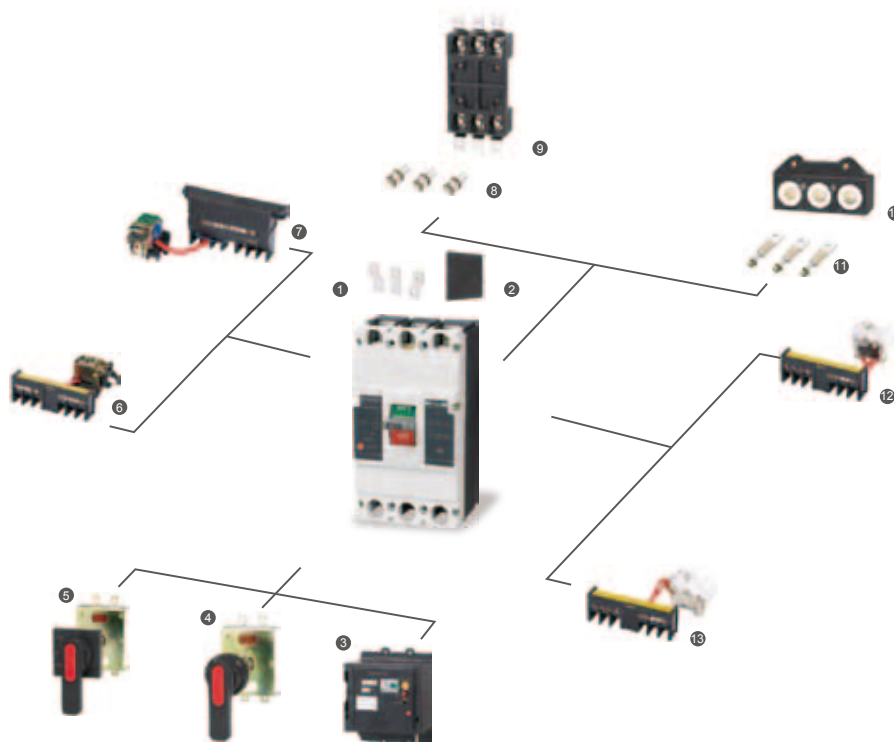


## Order Information for Accessories

Voltage (V)	Type	Reference					
		MN	MX	OF	SD	TR(Round Handle)	TS(Square Handle)
230V AC	<b>HDM1-63</b>	HDM163MN230*	HDM163MX230*	HDM163OF*	HDM163SD*	HDM163TR	HDM163TS
400V AC		HDM163MN400*	HDM163MX400*				
	<b>HDM1-100</b>	HDM1100MN230*	HDM1100MX230*	HDM1100OF*	HDM1100SD*	HDM1100TR	HDM1100TS
		HDM1100MN400*	HDM1100MX400*				
	<b>HDM1-225</b>	HDM1225MN230*	HDM1225MX230*	HDM1225OF*	HDM1225SD*	HDM1225TR	HDM1225TS
		HDM1225MN400*	HDM1225MX400*				
	<b>HDM1-400</b>	HDM1400MN230*	HDM1400MX230*	HDM1400OF*	HDM1400SD*	HDM1400TR	HDM1400TS
		HDM1400MN400*	HDM1400MX400*				
	<b>HDM1-630</b>	HDM1630MN230*	HDM1630MX230*	HDM1630OF*	HDM1630SD*	HDM1630TR	HDM1630TS
		HDM1630MN400*	HDM1630MX400*				
	<b>HDM1-800</b>	HDM1800MN230*	HDM1800MX230*	HDM1800OF*	HDM1800SD*	HDM1800TR	HDM1800TS
		HDM1800MN400*	HDM1800MX400*				
	<b>HDM1-1250</b>	HDM11250MN230*	HDM11250MX230*	HDM11250OF*			
		HDM11250MN400*	HDM11250MX400*				

Note 1: MN and MX could be sold with HDM1 product and installed by manufactory

2: \*means the connecting type;  
Blank: terminal connection;  
D5: 500mm wire connection



- |   |                           |    |                                 |    |                     |
|---|---------------------------|----|---------------------------------|----|---------------------|
| 1 | Connection                | 6  | Shunt release contacto          | 11 | Alarm contactor     |
| 2 | Phase partition           | 7  | Undervoltage release            | 12 | Auxiliary contactor |
| 3 | Motor mechanism           | 8  | Plug-type front connection      |    |                     |
| 4 | Round handle mechanism    | 9  | Plug-type rear connection       |    |                     |
| 5 | Quadrate handle mechanism | 10 | Stationary type rear connection |    |                     |

# HDM1 Molded Case Circuit Breaker

Standard: IEC 60947-2



## Technical Data

- Main technical parameters are shown in the table below

MCCB	HDM1																																
Standard	IEC 60947-2																																
Certificate	KEMA, SEMKO, CE																																
Rated frequency Hz	50/60																																
Type	HDM1-63				HDM1-100				HDM1-225				HDM1-400				HDM1-630				HDM1-800				HDM1-1250								
Rated insulation voltage $U_i$ V	690				800				800				800				800				800				800								
Rated impulse withstand voltage $U_{imp}$ KV	6				8				8				8				8				8				8								
Rated operational voltage $U_e$ V	400				400				400				400				400				400				400								
Breaking capacity	L	M	M	L	M	M	M	L	M	M	M	L	M	M	L	M	M	L	M	M	L	M	M	L	M	M	L	M	M	L	M	M	M
Poles	3	3	4	3	2	3	4	3	2	3	4	3	3	4	3	3	4	3	3	4	3	3	4	3	3	4	3	3	4	3			
Rated Ultimate short-circuit breaking capacity $I_{cu}$ kA	25	50	50	35	50	50	50	35	50	50	50	50	70	70	50	70	70	50	70	70	50	70	70	85									
Rated service short-circuit breaking capacity $I_{cs}$ kA	18	30	30	26	30	30	30	26	30	30	30	30	40	40	30	40	40	30	40	40	30	40	40	45									
Mechanical durabilities	8500				8500				7000				4000				4000				2500				2500								
Electrical durabilities	1500				1500				1000				1000				1000				500				500								
Rated current	10/16/20/25/40/50/63				16/20/25/40/50/63/80/100				100/125/160/180/200/225				200/225/250/315/350/400				400/500/630				400/500/630/700/800				700/800/1000/1250								

- Working Conditions

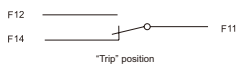
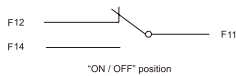
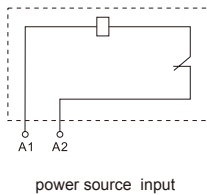
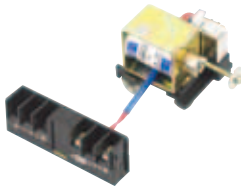
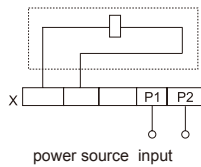
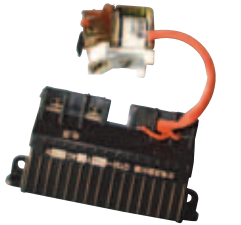
- Protection Level: IP20
- Pollution Level: III
- Correct Range of Working Environment: average temperature less than +35°C within 24 hours for - 5°C ~ + 40°C (please contact the manufacturer when over the range)
- Altitude of installation shall be less than 2000 m, and the capacity reduction is adopted for being used at 2000+ m.
- The relative temperature of the atmosphere is not more than 50% when the highest temperature is + 40°C, and the relative temperature is higher under lower temperature (e.g. 90% at +20°C), and the condensation formed on the surface of the products for temperature change shall be considered.

- Constructional features

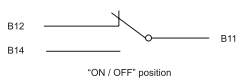
- Thermamagnetic release offers instantaneous trip against short-circuit and long time delay trip against overcurrent
- The circuit breaker can be fixed type or plug-in type
- For 4-pole circuit breakers:  
N-pole without overcurrent release, it switches on and off with other poles ( N-pole lead-make, lag-break)
- Various accessories can be attached to the circuit breaker to extend its functions, such as undervoltage release, shunt release, ON/OFF position indication contact, and tripped position indication contact, for detail see the accessories part

# HDM1 Molded Case Circuit Breaker

Standard: IEC 60947-2



Auxiliary Contact wiring diagram



Alarm Switch wiring diagram

## Accessories

The accessories are fixed into the circuit breaker.

- Remote tripping:
  - MX or MN releases are used to trip the circuit breaker.
- This release trips the circuit breaker when the control voltage drops below the tripping threshold:
  - Tripping threshold between 35% to 70% of the rated voltage
  - Circuit-breaker closing is possible only if the voltage exceeds 85% of the rated voltage.
- Circuit-breaker tripping by an MN release meets the requirements of standard IEC 60947-2.

## MN (Undervoltage Release)

### Technical data

Rated operating voltage $U_e$ (V)	230V, 400V AC
Drop-out voltage(V)	(0.35~0.7) $U_e$
Pick-up voltage(V)	(0.85~1.1) $U_e$

- MX shunt release:
  - The MX release trips the circuit breaker when the control voltage rises above  $0.7 \times U_n$ .
  - Control signals can be of the impulse type ( $u \geq 20$  ms) or maintained.

## MX (Shunt Release)

### Technical data

Rated control voltage $U_s$ (V)	230V, 400V AC
Operating voltage(V)	(0.7~1.1) $U_s$

- Indication contacts:
  - These common-point changeover contacts can be used to remotely indicate circuit-breaker status information for indications, electrical locking, relays, etc.
  - They comply with international standard IEC 60947-5.
- Functions:
  - OF (ON/OFF): indicates the position of the circuit-breaker contacts.
  - SD (trip indication): indicates that the circuit-breaker has tripped due to:
    - overload
    - short-circuit
    - operation of a voltage release
    - operation of the "push-to-trip" button
 Returns to de-energised state when the circuit breaker is reset.

## OF (Auxiliary Contactor)

### Technical data

Rated thermal current $I_{th}$	3A
Rated operating current	0.4A (400V AC)
1NO+1NC (Change over)	
2NO+2NC (Change over)	

## SD (Alarm Contactor)

### Technical data

Rated thermal current $I_{th}$	3A
Rated operating current	0.26A (400V AC)
	0.4A (400V AC)
1NO+1NC	

# HDM1 Molded Case Circuit Breaker

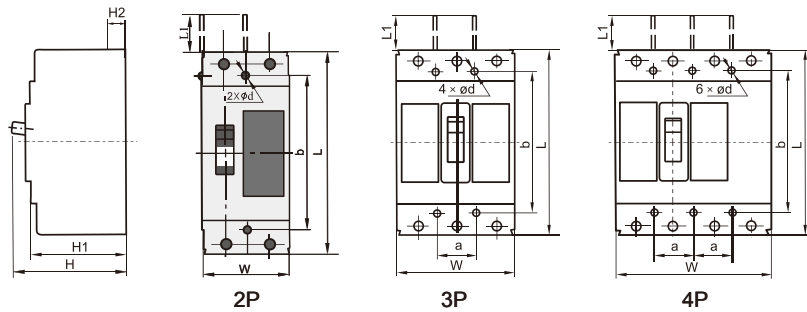
Standard: IEC 60947-2



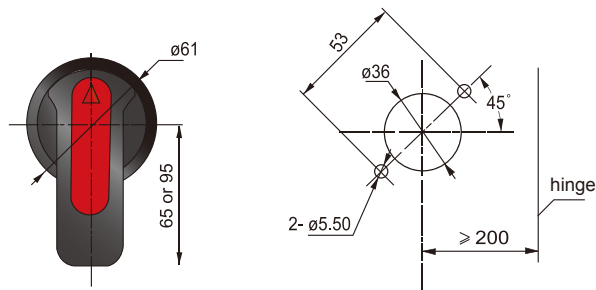
## Overall Dimensions

Type	Poles	Overall Dimensions						Install dimensions		
		L	L1	W	H	H1	H2	a	b	Φ d
HDM1-63L	3	135	21	76	89	74	21	25	117	3.5
HDM1-63M	3	135	21	76	99	82	28	25	117	3.5
HDM1-63M	4	135	21	103	99	82	28	25	117	3.5
HDM1-100M	2	150	51	65	103	87	24	--	129	4.5
HDM1-100L	3	150	51	92	87	68	25	30	129	4.5
HDM1-100M	3	150	51	92	103	87	24	30	129	4.5
HDM1-100M	4	150	51	122	103	87	24	30	129	4.5
HDM1-225M	2	165	64	75	124	104	24	--	126	5.5
HDM1-225L	3	165	64	107	108	87	24	35	126	5.5
HDM1-225M	3	165	64	107	124	104	24	35	126	5.5
HDM1-225M	4	165	64	142	124	104	24	35	126	5.5
HDM1-400L,M	3	257	105	140	146	100	36	44	215	6.5
HDM1-400M	4	257	105	184	146	100	36	44	215	6.5
HDM1-630L,M	3	270	118	182	160	108	41	58	200	7
HDM1-630M	4	270	118	240	160	108	41	58	200	7
HDM1-800L,M	3	280	102	210	146	103	34	70	243	7
HDM1-800M	4	280	102	280	146	103	34	70	243	7
HDM1-1250M	3	406	104	210	190	140.5	58	70	375	10

Unit:mm



Overall and cut-out diagram of round handle



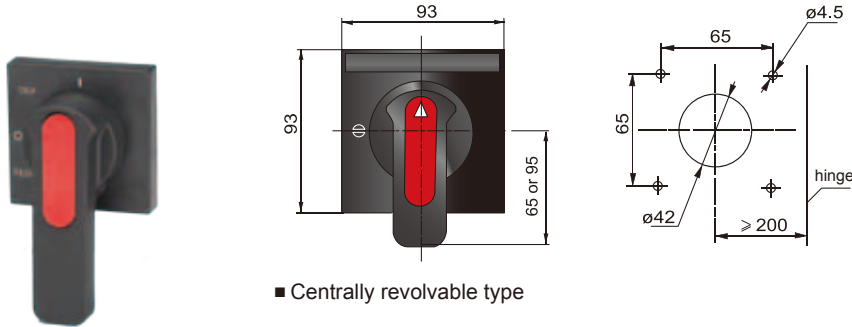
Low-voltage Distribution

# HDM1 Molded Case Circuit Breaker

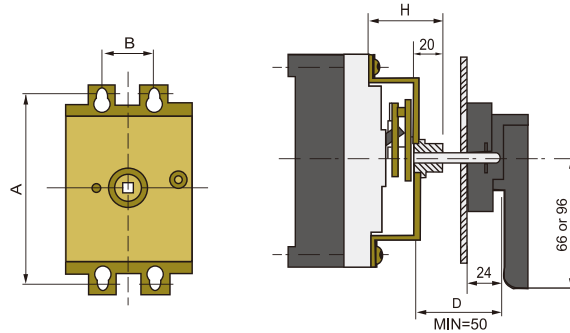
Standard: IEC 60947-2



## Overall and cut-out diagram of square handle



## Centrally revolvable type



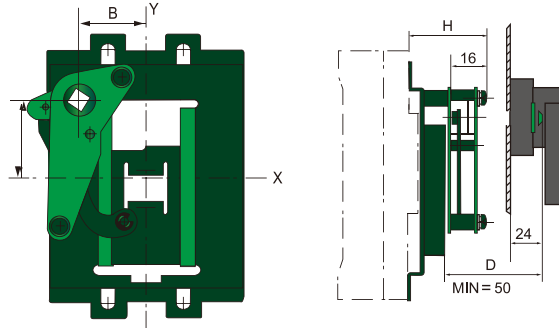
Unit:mm

Dimension for handle mechanism(centrally revolvable type)

Frame	A	B	H
HDM1-63	100	25	51
HDM1-100	103.5	30	52
HDM1-225	144	35	56
HDM1-400	215	44	88
HDM1-630	200	58	99
HDM1-800	242	70	88

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.

## Eccentrically rotating



Unit:mm

Dimension for handle mechanism(eccentrically revolvable type)

Frame	A	B	H
HDM1-100	35	11.5	46
HDM1-225	35	31	48
HDM1-400	65	15	61
HDM1-630	60	15	61
HDM1-800	48	15	66

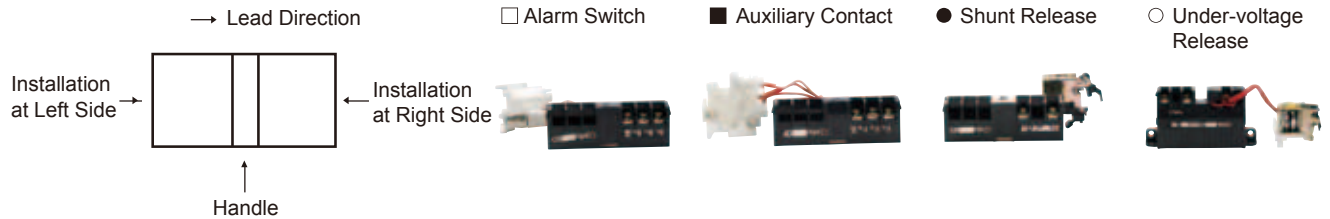
# HDM1 Molded Case Circuit Breaker

Standard: IEC 60947-2



## Installation Location of Accessories

Installation Method for Tripping Release and Accessories Code



Name of Accessory	Product Type					
	HDM1-63 HDM1-100 HDM1-225	HDM1-400	HDM1-630	HDM1-800	HDM1-1250	
Alarm Switch	◻	◻	◻	◻	◻	◻
Shunt Release	●	●	●	●	●	●
Auxiliary Contact	■	■	■	■	■	■
Undervoltage Release	○	○	○	○	○	○
Auxiliary Contact Shunt Release	● ■	● ■	● ■	● ■	■ ●	■ ●
Shunt Release Undervoltage Release	● ○	● ○	● ○	○ ●	○ ●	○ ●
Two Group Auxiliary Contact	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■
Auxiliary Contact Undervoltage Release	■ ○	■ ○	■ ○	○ ■	○ ■	○ ■
Shunt Release Alarm Switch	◻ ●	◻ ●	● ◻	◻ ●	◻ ●	◻ ●
Auxiliary Contact Alarm Switch	■ ◻	■ ◻	◻ ■	■ ◻	■ ◻	■ ◻
Undervoltage Release Alarm Switch	◻ ○	◻ ○	◻ ○	○ ◻	◻ ○	◻ ○
Shunt Release Auxiliary Contact Alarm Switch	■ ● ◻	■ ● ◻	● ◻ ■	■ ● ◻	■ ● ◻	■ ● ◻
Two Group Auxiliary Contact Alarm Switch	■ ■ ◻	■ ■ ◻	■ ■ ◻	■ ■ ◻	■ ■ ◻	■ ■ ◻
Auxiliary Contact Undervoltage Release Alarm Switch	■ ○ ◻	■ ○ ◻	■ ○ ◻	■ ○ ◻	■ ○ ◻	■ ○ ◻

Low-voltage Distribution



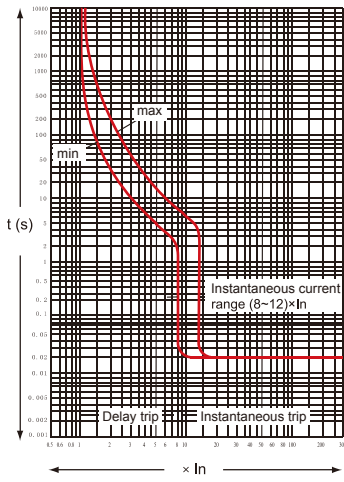
# HDM1 Molded Case Circuit Breaker

Standard: IEC 60947-2



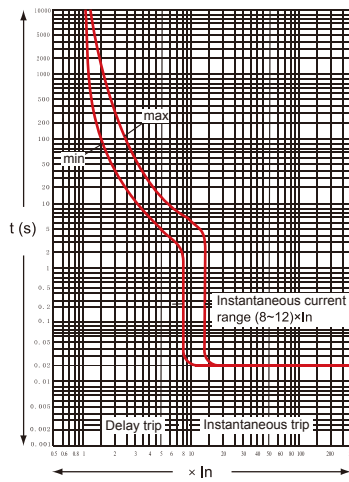
## Characteristic Curve of Circuit Breaker

Low-voltage Distribution



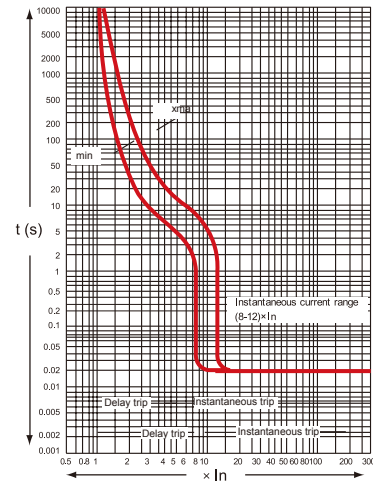
For power distribution

HDM1-63 Time/current characteristic curve



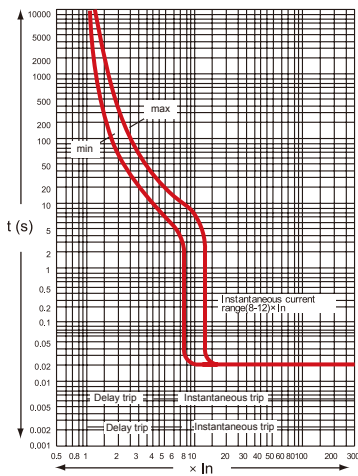
For power distribution

HDM1-100 Time/current characteristic curve



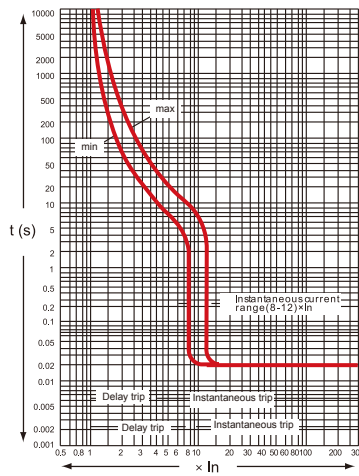
For power distribution

HDM1-225 Time/current characteristic curve



For power distribution

HDM1-400 Time/current characteristic curve



For power distribution

HDM1-630 Time/current characteristic curve

# HDM1LE Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

## Function

- Constructional features
  - Thermamagnetic release offers instantaneous trip against short-circuit and long time delay trip against overcurrent
  - The residual operating current value can be fixed or adjustable
  - The residual operating current protection can be with time-delay or without time-delay
  - Various accessories can be attached to the circuit breaker to extend its functions, such as undervoltage release, shunt release, ON/OFF position indication contact, and tripped position indication contact, for detail see the position indication contact, for detail see the accessories part

## Coding System

Country code	Product name	Frame current	Breaking capacity	Current	Pole	Usage	Residual current	N Pole
HD	M1LE	100	M	16	3		L	A
		100:100A 225:225A 400:400A	L: L type M: M type	16: 16A ... 400: 400A	3:3 pole 4:4 pole	Blank for distribution protection	S:30mA Y:100mA T:300mA F:500mA KY:30/100/500mA KT:100/300/500mA	For HDM1LE 4pole: A=A type (Direct connect) B=B type (Direct connect, lead-make, lag break)

# HDM1LE Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

## Order Information



Type	Rated current In A	Reference		
		Type M	Type L	
HDM1LE-100 3P	16	HDM1LE100M163 *	HDM1LE100L163 *	
	20	HDM1LE100M203 *	HDM1LE100L203 *	
	25	HDM1LE100M253 *	HDM1LE100L253 *	
	32	HDM1LE100M323 *	HDM1LE100L323 *	
	40	HDM1LE100M403 *	HDM1LE100L403 *	
	50	HDM1LE100M503 *	HDM1LE100L503 *	
	63	HDM1LE100M633 *	HDM1LE100L633 *	
	80	HDM1LE100M803 *	HDM1LE100L803 *	
	100	HDM1LE100M1003 *	HDM1LE100L1003 *	
	4P A	16	HDM1LE100M164 * A	HDM1LE100L164 * A
		20	HDM1LE100M204 * A	HDM1LE100L204 * A
		25	HDM1LE100M254 * A	HDM1LE100L254 * A
		32	HDM1LE100M324 * A	HDM1LE100L324 * A
		40	HDM1LE100M404 * A	HDM1LE100L404 * A
		50	HDM1LE100M504 * A	HDM1LE100L504 * A
		63	HDM1LE100M634 * A	HDM1LE100L634 * A
		80	HDM1LE100M804 * A	HDM1LE100L804 * A
		100	HDM1LE100M1004 * A	HDM1LE100L1004 * A
	4P B	16	HDM1LE100M164 * B	HDM1LE100L164 * B
20		HDM1LE100M204 * B	HDM1LE100L204 * B	
25		HDM1LE100M254 * B	HDM1LE100L254 * B	
32		HDM1LE100M324 * B	HDM1LE100L324 * B	
40		HDM1LE100M404 * B	HDM1LE100L404 * B	
50		HDM1LE100M504 * B	HDM1LE100L504 * B	
63		HDM1LE100M634 * B	HDM1LE100L634 * B	
80		HDM1LE100M804 * B	HDM1LE100L804 * B	
100		HDM1LE100M1004 * B	HDM1LE100L1004 * B	
HDM1LE-225 3P	100	HDM1LE225M1003 *	HDM1LE225L1003 *	
	125	HDM1LE225M1253 *	HDM1LE225L1253 *	
	140	HDM1LE225M1403 *	HDM1LE225L1403 *	
	160	HDM1LE225M1603 *	HDM1LE225L1603 *	
	180	HDM1LE225M1803 *	HDM1LE225L1803 *	
	200	HDM1LE225M2003 *	HDM1LE225L2003 *	
	225	HDM1LE225M2253 *	HDM1LE225L2253 *	
	4P A	100	HDM1LE225M1004 * A	HDM1LE225L1004 * A
		125	HDM1LE225M1254 * A	HDM1LE225L1254 * A
		140	HDM1LE225M1404 * A	HDM1LE225L1404 * A
		160	HDM1LE225M1604 * A	HDM1LE225L1604 * A
		180	HDM1LE225M1804 * A	HDM1LE225L1804 * A
		200	HDM1LE225M2004 * A	HDM1LE225L2004 * A
	4P B	100	HDM1LE225M1004 * B	HDM1LE225L1004 * B
		125	HDM1LE225M1254 * B	HDM1LE225L1254 * B
		140	HDM1LE225M1404 * B	HDM1LE225L1404 * B
		160	HDM1LE225M1604 * B	HDM1LE225L1604 * B
		180	HDM1LE225M1804 * B	HDM1LE225L1804 * B
		200	HDM1LE225M2004 * B	HDM1LE225L2004 * B
225		HDM1LE225M2254 * B	HDM1LE225L2254 * B	

Note: \* express residual current.

# HDM1LE Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

## Order Information



Type	Rated current In A	Reference	
		Type M	
<b>HDM1LE-400 3P</b>	200	HDM1LE400M2003 *	
	250	HDM1LE400M2503 *	
	315	HDM1LE400M3153 *	
	350	HDM1LE400M3503 *	
	400	HDM1LE400M4003 *	
<b>4P A</b>	200	HDM1LE400M2004 * A	
	225	HDM1LE400M2254 * A	
	250	HDM1LE400M2504 * A	
	315	HDM1LE400M3154 * A	
	350	HDM1LE400M3504 * A	
	400	HDM1LE400M4004 * A	
<b>4P B</b>	200	HDM1LE400M2004 * B	
	225	HDM1LE400M2254 * B	
	250	HDM1LE400M2504 * B	
	315	HDM1LE400M3154 * B	
	350	HDM1LE400M3504 * B	
	400	HDM1LE400M4004 * B	

Note: \* express residual current.

## Order Information for Accessories

Voltage (V)	Type	Reference					
		MN	X*	OF	SD	TS(Square Handle)	TR(Round Handle)
230V AC 400V AC	<b>HDM1LE-100</b>	HDM1LE100MN230	*HDM1LE100MX230	*HDM1LE100OF*	HDM1LE100SD*	HDM1LE100TS	HDM1LE100TR
		HDM1LE100MN400	*HDM1LE100MX400*				
	<b>HDM1LE-225</b>	HDM1LE225MN230	*HDM1LE225MX230	*HDM1LE225OF*	HDM1LE225SD*	HDM1LE225TS	HDM1LE225TR
		HDM1LE225MN400	*HDM1LE225MX400*				
	<b>HDM1LE-400</b>	HDM1LE400MN230	*HDM1LE400MX230	*HDM1LE400OF*	HDM1LE400SD*	HDM1LE400TS	HDM1LE400TR
		HDM1LE400MN400	*HDM1LE400MX400*				

Note 1: MN and MX could be sold with HDM1LE product and installed by manufactory

2: \*means the connecting type;

Blank: terminal connection;

D5: 500mm wire connection

# HDM1LE Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

## Technical Data

Type		HDM1LE-100	HDM1LE-225	HDM1LE-400
Frame size rated current A		100	225	400
Rated current $I_n$ A		16 20 25 32 40	100 125 140 160	200 250 315
		50 63 80 100	180 200 225	350 400
Rated frequency Hz		50/60		
Rated insulation voltage $U_i$ V		800		
Rated operational voltage $U_e$ V		400		
Rated impulse withstand voltage $U_{imp}$ V		8000		
Number of poles		3P, 4P		
$I_{cu}$ kA (400V)	Type M	50	50	50
	Type L	30	30	—
$I_{cs}$ kA (400V)	Type M	35	35	30
	Type L	22	22	—
Rated residual operating current	Without delay	30/100/500	30/100/500	100/300/500
	With delay	100/300/500	100/300/500	100/300/500
$I_{\Delta n}$ (mA)		100/300/500	100/300/500	100/300/500
Rated residual non-operating current $I_{\Delta n}$ (mA)		$1/2 I_{\Delta n}$	$1/2 I_{\Delta n}$	$1/2 I_{\Delta n}$
Durability	Electrical	1500	1000	1000
	Mechanical	8500	7000	4000
	Total	10000	8000	5000

### ■ Maximum break time for residual operating current protection

Number of poles		$I_{\Delta n}$	$2 I_{\Delta n}$	$5 I_{\Delta n}$	$10 I_{\Delta n}$
Max. break time S	Without delay	0.2	0.1	0.04	0.04
	With delay	0.5/1.15/2.15	0.35/1/2	0.25/0.9/1.9	0.25/0.9/1.9

### ■ Table for 4 pole HDM1LE (Neutral line)

Code	Note
A	N(direct connect)
B	N(direct connect N pole lead-make, lag-break)

#### Constructional features

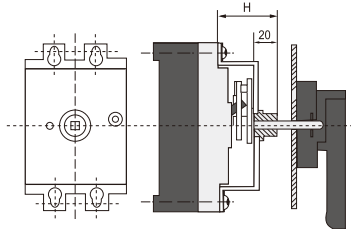
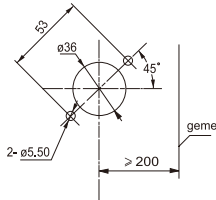
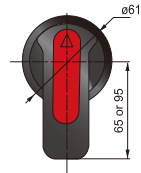
- Thermamagnetic release offers instantaneous trip against short-circuit and long time delay trip against over current
- The residual operating current value can fixed or adjusted
- The residual operating current protection can be with time-delay or without time-delay
- Various accessories can be attached to the circuit breaker to extend its functions. such as undervoltage release, shunt release, ON / OFF position indication contact, and tripped position indication contact. for detail see the accessories part

# HDM1LE Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

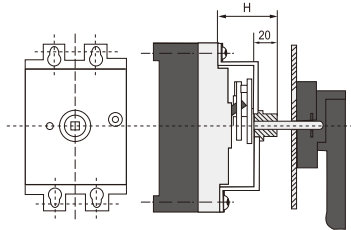
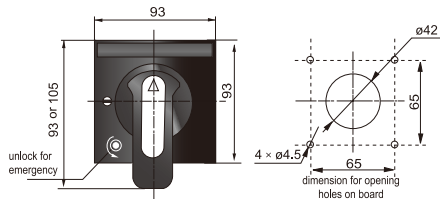
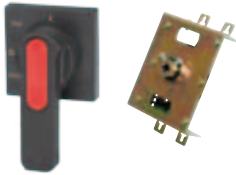
## Handle mechanism

- Centrally revolvable type



Unit:mm

- Square Handle



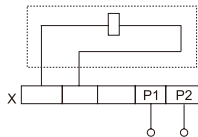
Dimension for handle mechanism

Frame	HDM1LE-100	HDM1LE-225	HDM1LE-400
Dimension	49	55	74

## Accessories

The accessories are fixed into the circuit breaker.

- Remote tripping:
  - MX or MN releases are used to trip the circuit breaker.
  - This release trips the circuit breaker when the control voltage drops below the tripping threshold:
    - tripping threshold between 0.35 and 0.7 times the rated voltage
    - circuit-breaker closing is possible only if the voltage exceeds 0.85 times the rated voltage.
  - Circuit-breaker tripping by an MN release meets the requirements of standard IEC 60947-2.



Power source input

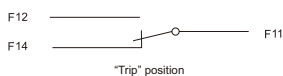
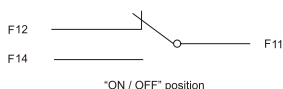
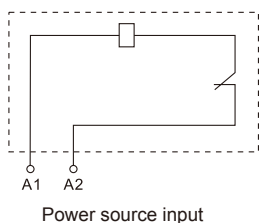
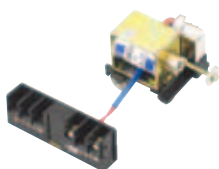
### MN (Undervoltage Release)

#### Technical data

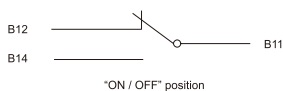
Rated operating voltage $U_e$ (V)	230V, 400V AC
Drop-out voltage(V)	(0.35~0.7) $U_e$
Pick-up voltage(V)	(0.85~1.1) $U_e$

# HDM1LE Earth-Leakage Circuit Breaker

Standard: IEC 60947-2



Auxiliary Contact wiring diagram



Arm Switch wiring diagram

## ■ MX shunt release:

- The MX release trips the circuit breaker when the control voltage rises above  $0.7 \times U_n$ .
- Control signals can be of the impulse type ( $\mu 20 \text{ ms}$ ) or maintained.

## MX (Shunt Release)

Technical data	230V, 400V AC
Rated control voltage $U_s(V)$	$(0.7 \sim 1.1) U_s$
Operating voltage(V)	

## ■ Indication contacts:

- These common-point changeover contacts can be used to remotely indicate circuit-breaker status information for indications, electrical locking, relays, etc.
- They comply with international standard IEC 60947-5.

## ■ Functions:

- OF (ON/OFF): indicates the position of the circuit-breaker contacts.
- SD (trip indication): indicates that the circuit-breaker has tripped due to:
  - overload
  - short-circuit
  - operation of a voltage release
  - operation of the "push-to-trip" button
 Returns to deenergised state when the circuit breaker is reset.

## OF (Auxiliary Contactor)

Technical data	
Rated thermal current $I_{th} \text{ 3A}$	0.4A (400V AC)
Rated operating current	
1NO+1NC (Change over)	
2NO+2NC (Change over)	

## SD (Alarm Contactor)

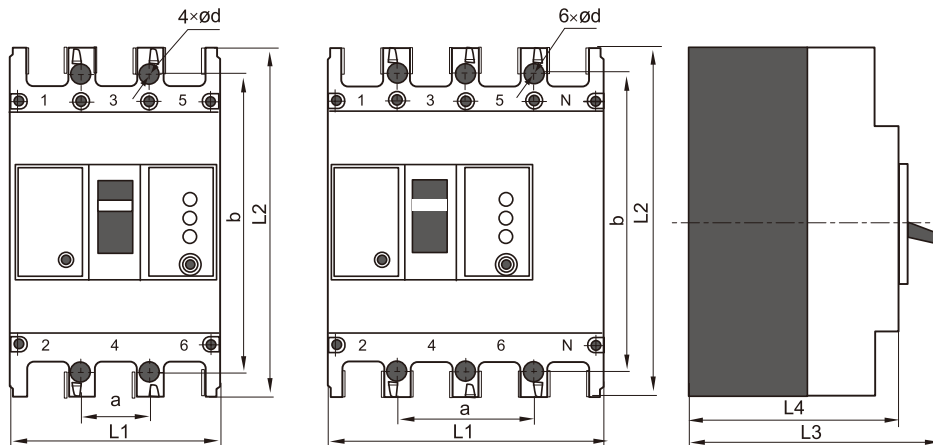
Technical data	
Rated thermal current $I_{th} \text{ 3A}$	0.26A (400V AC)
Rated operating current	0.4A (400V AC)
1NO+1NC	

# HDM1LE Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

## Overall Dimensions

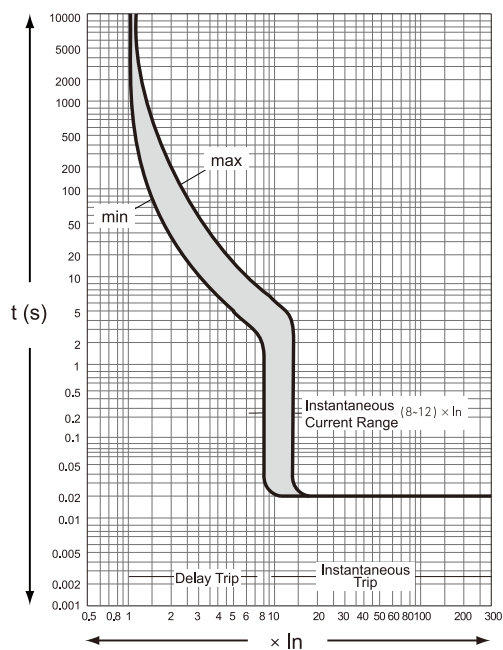
Unit:mm



Key to Overall Dimensions

Type	Poles	Overall size				Installation size		
		L1	L2	L3	L4	a	b	Φ d
HDM1LE-100L	3	92max	150max	94max	75max	30	129	4 × Φ4.5
	4	122max	150max	94max	75max	60	129	6 × Φ4.5
HDM1LE-100M	3	92max	150max	110max	92max	30	129	4 × Φ4.5
	4	122max	150max	110max	92max	60	129	6 × Φ4.5
HDM1LE-225L	3	107max	165max	94max	72max	35	126	4 × Φ4.5
	4	142max	165max	94max	72max	70	126	6 × Φ4.5
HDM1LE-225M	3	107max	165max	110max	90max	35	126	4 × Φ4.5
	4	142max	165max	110max	90max	70	126	6 × Φ4.5
HDM1LE-400L,M	3	150max	257max	150max	107max	48	194	4 × Φ4.5
	4	198max	257max	150max	107max	95	194	6 × Φ6.5

HDM1L-100 Time/Current characteristic curve Power distribution



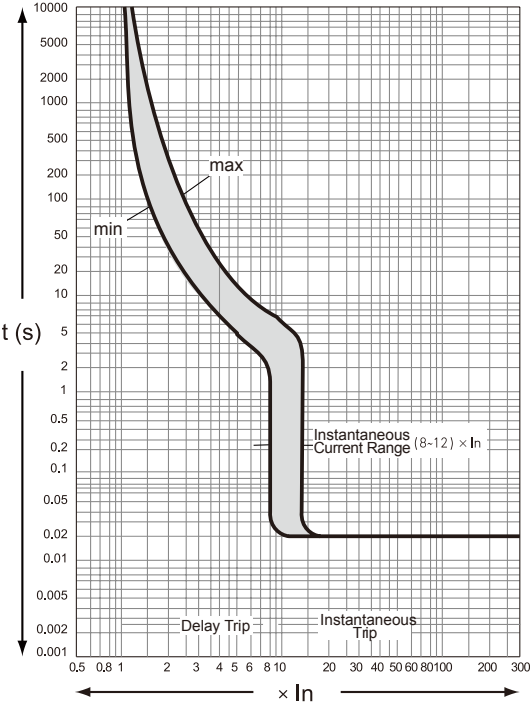
For power distribution



# HDM1LE Earth-Leakage Circuit Breaker

Standard: IEC 60947-2

HDM1L-225 Time/Current characteristic curve Power distribution



HDM1L-400 Time/Current characteristic curve Power distribution

