# Molded Case Circuit Breaker

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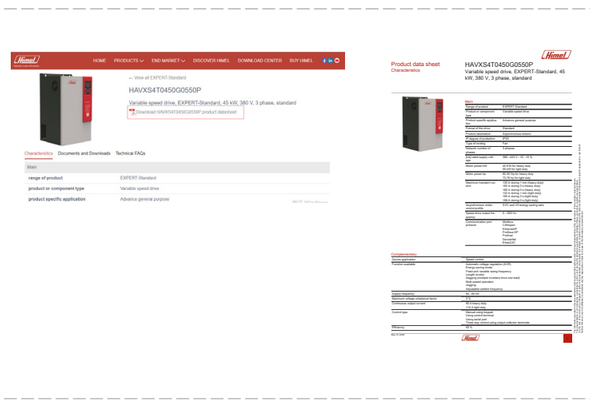


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LOW VOLTAGE DISTRIBUTION

# HDM2 MCCB

## Range Presentation

HDM2 is Himel range of 1P/2P MCCB , rated current 10A to 125A, rated Voltage 220V/240V, 400V, suitable for AC 50/60Hz and mainly used in the Power distribution system, to provide protection against overload and short circuit.

## Features

- Rated current 10A to 125A
- Icu/Ics certified
  1P: Icu/Ics=20/15kA@220/240V
  2P: Icu/Ics=30/18kA@220/240V
  Icu/Ics=20/15kA@400V
- Thermal trip calibrated under 40˚C and 50˚C , suitable for Higher ambient temperature

## Online Content

HDM2

## Selection Code

| Range name | Frame size | Breaking capacity | Rated current | Poles | Temperature |
|---|---|---|---|---|---|
| **HDM2** | **125** | **L** | **100** | **1** | |
| **HDM2** | **125:** 125AF | L | **010:** 10A<br>**016:** 16A<br>...<br>**100:** 100A<br>**125:** 125A | **1:** 1P<br>**2:** 2P | **Default:** 40˚C<br>**T:** 50˚C |

Note: "T" is thermal trip calibrated in 50 degree. please contact with HIMEL local office, if you required

| Technical Parameters | | | |
|---|---|---|---|
| **MCCB** | | **HDM2-125** | |
| Rated voltage Ue(V) | | 1P: 220/240VAC; 2P: 400VAC | |
| Rated frequency (Hz) | | 50/60Hz | |
| Rated insulation voltage Ui(V) | | 690V | |
| Rated impulse withstand voltage uimp(kV) | | 8kV | |
| Rated current In(A) | | 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A,125A | |
| Utilization category | | A | |
| Reference temperature | | 40˚C | |
| Number of Poles | | 1P | 2P |
| Icu(kA) | 220/240VAC | 20 | 30 |
| Ics(kA) | 220/240VAC | 15 | 18 |
| Icu(kA) | 400VAC | / | 20 |
| Ics(kA) | 400VAC | / | 15 |
| Mechanical life | | 9000 | |
| Electrical life | | 2000 | |
| Isolation function | | Available | |
| Certification | | SEMKO | |

# HDM2 MCCB

| Ambient temperature (40℃ product) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature / Model | 0℃ | 10℃ | 20℃ | 25℃ | 30℃ | 35℃ | 40℃ | 45℃ | 50℃ | 55℃ | 60℃ |
| HDM2-1P | 1.19 | 1.16 | 1.12 | 1.1 | 1.08 | 1.03 | 1 | 0.95 | 0.86 | 0.81 | 0.73 |
| HDM2-2P | 1.19 | 1.16 | 1.12 | 1.1 | 1.08 | 1.03 | 1 | 0.95 | 0.86 | 0.81 | 0.73 |

| Altitude derating table | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Altitude(m)** | **2000** | **2500** | **3000** | **3500** | **4000** | **4500** | **5000** |
| Rated insulation voltage Ui (V) | 690 | 627 | 627 | 572 | 572 | 531 | 531 |
| Rated impulse withstand voltage Uimp (kV) | 8 | 7 | 7 | 6.5 | 6.5 | 6 | 6 |
| Rated operating voltage Ue (V) | 400 | 400 | 330 | 305 | 280 | 265 | 250 |
| De-rated rated current at ambient temperature of 40℃ | 1In | 0.98In | 0.94In | 0.92In | 0.88In | 0.86In | 0.85In |

## Installing and Operation

- Before installation :
  (1) Check whether the parameters on nameplate comply with the application requirement;
  (2) Make sure the handle at the "Trip" position;
  (3) Open and close the circuit breakers 3 times, and the operation should be reliable and no clamping, and the handle should be at "OFF" position;
- When installing :
  (1) Check whether the wire connection is correct, and connect “LINE” to power supply, and “LOAD” to equipments.
  (2) Refer to below table 1 for recommended wiring cross section and related rated current, to make sure the breaker work properly;
  (3) Refer to table 2 for wiring fastening torque;

### Rated current and related wiring cross section

| Rated current A | 10 | 16,20 | 25 | 32 | 40,50 | 63 | 80 | 100 | 125 |
|---|---|---|---|---|---|---|---|---|---|
| Cross section of wire mm2 | 1.5 | 2.5 | 4 | 6 | 10 | 16 | 25 | 35 | 50 |

### Fastening torque

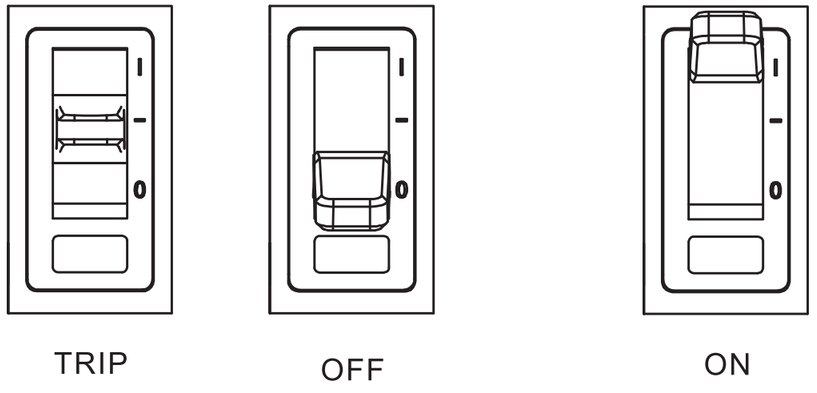
| Model | Screw | Fastening torque N·m |
|---|---|---|
| 125AF | M8 | 9.5-10.5 |



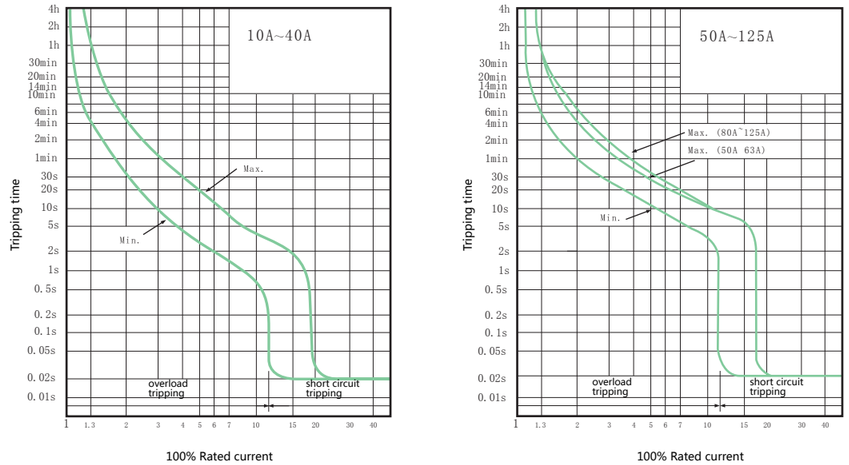


# HDM2 MCCB

## Handle Position Indication

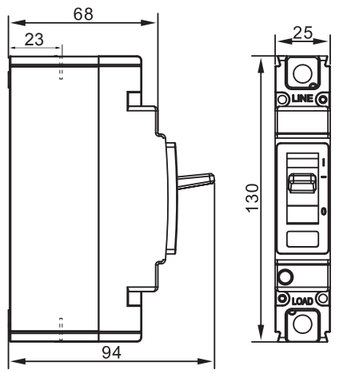



## HDM2 Series Trip Curve

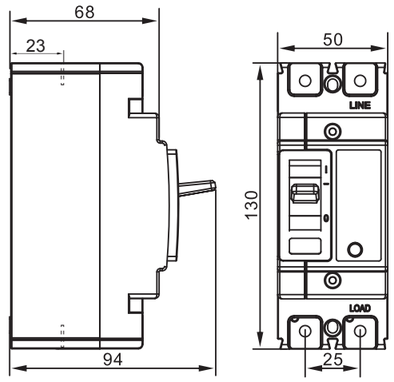


# HDM2 MCCB

## Dimensions

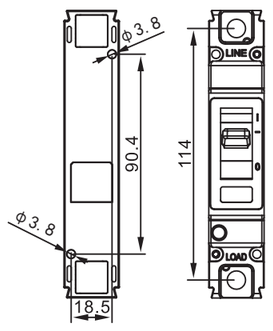



HDM2-125/1P

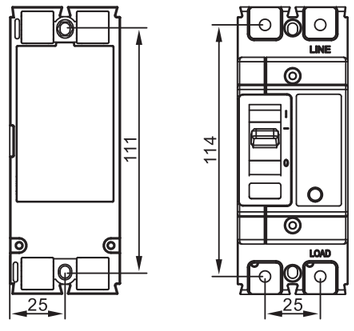



HDM2-125/2P

## Installation Size

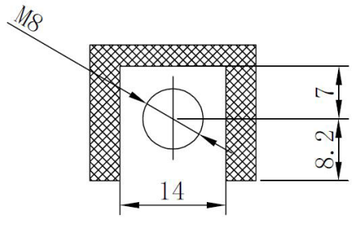



HDM2-125/1P




HDM2-125/2P

## Terminal Connection Size








# HDM2 MCCB

## Maintenance and Care

- The maintenance and care must be implemented by qualified professional persons;
- Make sure that the breaker is electrically neutral;
- Conduct maintenance and care once a year under normal operation condition.
- See below table for maintenance content.

| Type | Item | Content |
|---|---|---|
| Circuit Breaker | Appearance | Free of dust or condensation. Clean if there is any.<br>Free of damage.<br>No discoloration at the shell or connecting terminal. |
| | Terminal Connection | Not loose and tighten according to the torque specified in table 2 |
| | Interphase barrier | Should be inserted tightly, and no damage |
| | Handle closing and opening | Operation shall be flexible |
| | Insulation test | Prohibited to test insulation between any two load phases by short circuit |
| | Test button | The handle should be at trip position after tripping |
| Circuit breaker with accessories (If applicable) | Installed with undervoltage release | The breaker shall open reliably when cut off the power supply of undervoltage release, and the handle should be at TRIP position |
| | Installed with shunt release | The breaker shall open reliably when energizing the shunt release with rated voltage, and the handle should be at TRIP position |
| | Installed with auxiliary contacts | Open and close the breaker, the auxiliary contacts shall transfer signal reliably. |

# HDM3S MCCB

## Range Presentation

HDM3S is himel 3 series range of moulded case circuit breakers with adjustable thermal magnetic trip unit,providing line protection, up to 630A

## Features

- Double-deck cover design assures easy intallation and removal of accessories.
- Thermal adjustable range (0.8~1)In ,magnetic adjustable range (5~10)In
- All series Ics=100%Icu.

## Online Content

HDM3S

## MCCB Selection Code

| Range name | Frame size | Breaking capacity | Rated current | Poles | Protection | Temperature |
|---|---|---|---|---|---|---|
| **HDM3S** | **160** | **M** | **160** | **3** | **3XX** | |
| **HDM3S** | **160:** 160A<br>**250:** 250A | **M:** 35/35kA | **025:** 25A<br>**032:** 32A<br>... | **3:** 3P<br>**B:** 4P* | **3XX:** Thermal-magnetic adjustable<br>**2XX:** Magnetic protection, Magnetic adjustable only<br>**1XX:** Thermal-magnetic protection, Thermal adjustable only | **Default:** 40℃<br>**T:** 50℃ |
| | **400:** 400A<br>**630:** 630A | **M:** 50/50kA | **500:** 500A<br>**630:** 630A | | | |

Note: 1. B: The N phase is equipped with contacts, but without protection. It closes earlier and opens later than the other 3 poles.
2. If 2xx, 1xx products required, please confirm with local Himel sales office
3. Thermal -magnetic adjustable (3XX) , the minimun In=63A
4. "T" is thermal trip calibrated in 50 degree. please contact with HIMEL local office, if you required

| Frame size(A) | Rated Current (A) @40℃ In | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 140 | 160 | 200 | 250 | 320 | 400 | 500 | 630 |
| 160 | | | | | | | | | | | | | | | | |
| 250 | | | | | | | | | | | | | | | | |
| 400 | | | | | | | | | | | | | | | | |
| 630 | | | | | | | | | | | | | | | | |

## Technical Parameters

| **Frame** | **HDM3S-160** | | **HDM3S-250** | **HDM3S-400** | **HDM3S-630** |
|---|---|---|---|---|---|
| Standard | IEC 60947-2 | | IEC 60947-2 | IEC 60947-2 | IEC 60947-2 |
| [Uimp] rated impulse withstand voltage | 8kV | | 8kV | 8kV | 8kV |
| [Ui] rated insulation voltage | AC1000V | | AC1000V | AC1000V | AC1000V |
| Network frequency | 50/60 Hz | | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| [Ue] rated operational voltage | 400/415VAC | | 400/415VAC | 400/415VAC | 400/415VAC |
| Poles | 3/4 | | 3/4 | 3/4 | 3/4 |
| Suitability for isolation | Yes | | Yes | Yes | Yes |
| Utilisation category | Category A | | Category A | Category A | Category A |
| [In]Current | 25/32/40/50 | 63/80/100/125/160 | 140/160/200/250 | 250/320/400 | 500/630 |
| Thermal Adjustable | 0.8,0.9,1.0 | 0.8,0.9,1.0 | 0.8,0.9,1.0 | 0.8,0.9,1.0 | 0.8,0.9,1.0 |
| Magnetic Adjustable | / | 5,6,7,8,9,10 | 5,6,7,8,9,10 | 5,6,7,8,9,10 | 5,6,7,8,9,10 |
| Breaking Capacity | M | | M | M | M |
| 400VAC Icu | 35 | | 35 | 50 | 50 |
| 400VAC Ics | 35 | | 35 | 50 | 50 |
| Mechanical Life | 8500 | | 7000 | 4000 | 4000 |
| Electrical Life | 1500 | | 1000 | 1000 | 1000 |
| Dimension ( WxHxD) | 90-155-108(3P)/<br>120-155-108(4P) | | 105-165-116(3P)/<br>140-165-116(4P) | 140-257-155(3P)/<br>184-257-155(4P) | 140-257-155(3P)/<br>184-257-155(4P) |
| Ambient air temperature for operation | 40/50 °C | | 40/50 °C | 40/50 °C | 40/50 °C |
| Certificates | TUV/ CB | | TUV/ CB | TUV/ CB | TUV/ CB |





# HDM3S MCCB

## Operating Conditions

**Pollution degree**

HDM3S products operate in the environment (industrial environment) with pollution class 3 defined in IEC/EN 60947-1 and IEC/EN 60947-2 standards.

**Environment temperature**

- HDM3S series can work for a long time under normal environment and operating temperature between -5℃ and 50℃ .
- Refer to the temperature derating factor table or contact us if the operating ambient temperature exceeds 40℃
- Storage temperature ranges between -20℃ and 70℃ .

**Altitude**

- Altitude at normal installation site does not exceed 2000m.
- If the altitude exceeds 2000m, the changes in the dielectric strength and the air temperature drop must be considered. Refer to the altitude derating factor table or contact us.

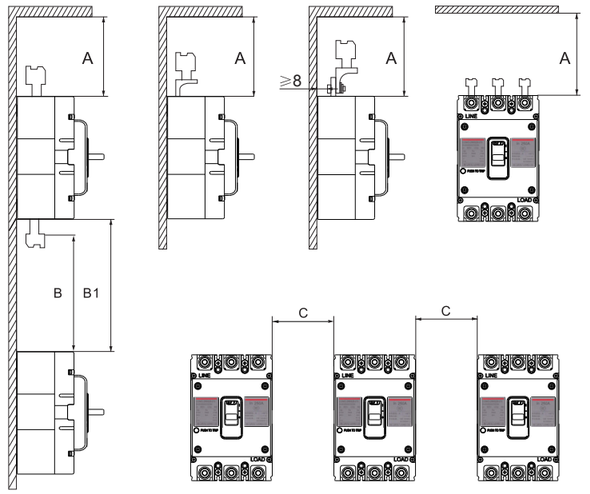
**Humidity**

The following conditions must be met during normal operation:
- The relative humidity of atmosphere does not exceed 50% if the ambient air temperature is +40℃ .The product can be used at a high relative humidity if the temperature is low.
- The monthly average relative humidity at the wettest month is 90%.
- The impact of the condensation generated on the product surface on the product property shall be considered.

**Protection class**

- IP protection class of circuit breaker body: IP20
- Circuit breaker installed in the switch cabinet:
  circuit breaker with a toggle handle IP40
  circuit breaker with an electric operating mechanism IP40

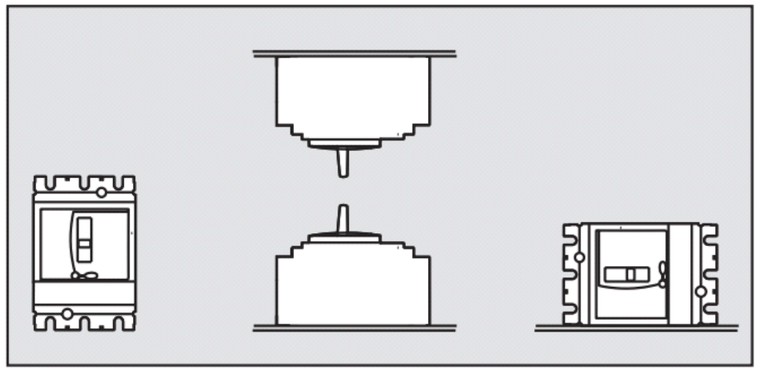
## Safety Distance




| Model | A | B | C(mm) |
|---|---|---|---|
| HDM3S-160 | 60 | 120 | 30 |
| HDM3S-250 | 60 | 120 | 30 |
| HDM3S-400 | 110 | 220 | 70 |
| HDM3S-630 | 110 | 220 | 70 |

# HDM3S MCCB

## Installation Position



## Deratig

| Product type | Ambient temperature (40˚C product) | | | | |
|---|---|---|---|---|---|
| | 40 | 45 | 50 | 55 | 60 |
| HDM3S-160 | 1 | 0.96 | 0.89 | 0.83 | 0.75 |
| HDM3S-250 | 1 | 0.92 | 0.85 | 0.79 | 0.71 |
| HDM3S-400/630 | 1 | 0.94 | 0.87 | 0.81 | 0.73 |

Note: For 50 product temperature derating, please confirm with local Himel sales office.

| | Altitude | | | |
|---|---|---|---|---|
| | 2000m | 3000m | 4000m | 5000m |
| Insulation voltage Ui (V) | 800 | 728 | 664 | 616 |
| Uimp (kV) | 8 | 7 | 6.5 | 6 |
| Power frequency withstand voltage (V) | 3000 | 2500 | 2100 | 1800 |
| Rated heat value at 40˚C (A) *In | 1 | 0.94 | 0.88 | 0.85 |

## Power loss of three poles(W)

| Product type | Rated current | Front connection | Rear connection | Plug-in connection | Withdrawable connection |
|---|---|---|---|---|---|
| HDM3S-160 | 160 | 60 | 87 | 87 | _ |
| HDM3S-250 | 250 | 63 | 90 | 90 | _ |
| HDM3S-400 | 400 | 115 | 120 | 120 | 128 |
| HDM3S-630 | 630 | 180 | 190 | 190 | 205 |





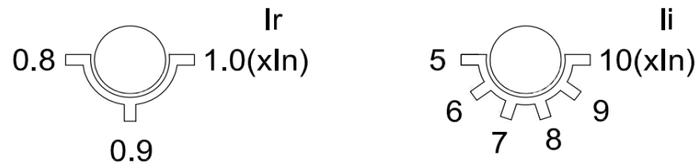
# HDM3S MCCB

## Trip Units

### Thermal and magnetic

**Protection**

The circuit breaker equipped with TM thermomagnetic release is mainly for protection of the cable, which is on the power distribution system for transformer power supply.




**Overload protection: thermal protection Ir (Adjustable)**

The overload protection function provides inverse time limit curve on the basis of bimetal. If the limit is exceeded,the deformation of the bimetal can lead in the tripping of the circuit breaker operating mechanism.
Thermal adjustable range:0.8,0.9,1.0In

| Test No. | I/In | Conventional time | Breaker status | Initial status |
|---|---|---|---|---|
| 1 | 1.05 | ＞1h(In ≤ 63A)<br>＞2h(In ＞ 63A) | Non-tripping | Cold status |
| 2 | 1.3 | ≤ 1h(In ≤ 63A)<br>≤ 2h(In ＞ 63A) | Tripping | Immediately after test 1 |

Note: For 160A breaker,rated current is under 50A, only have thermal adjustable breaker.

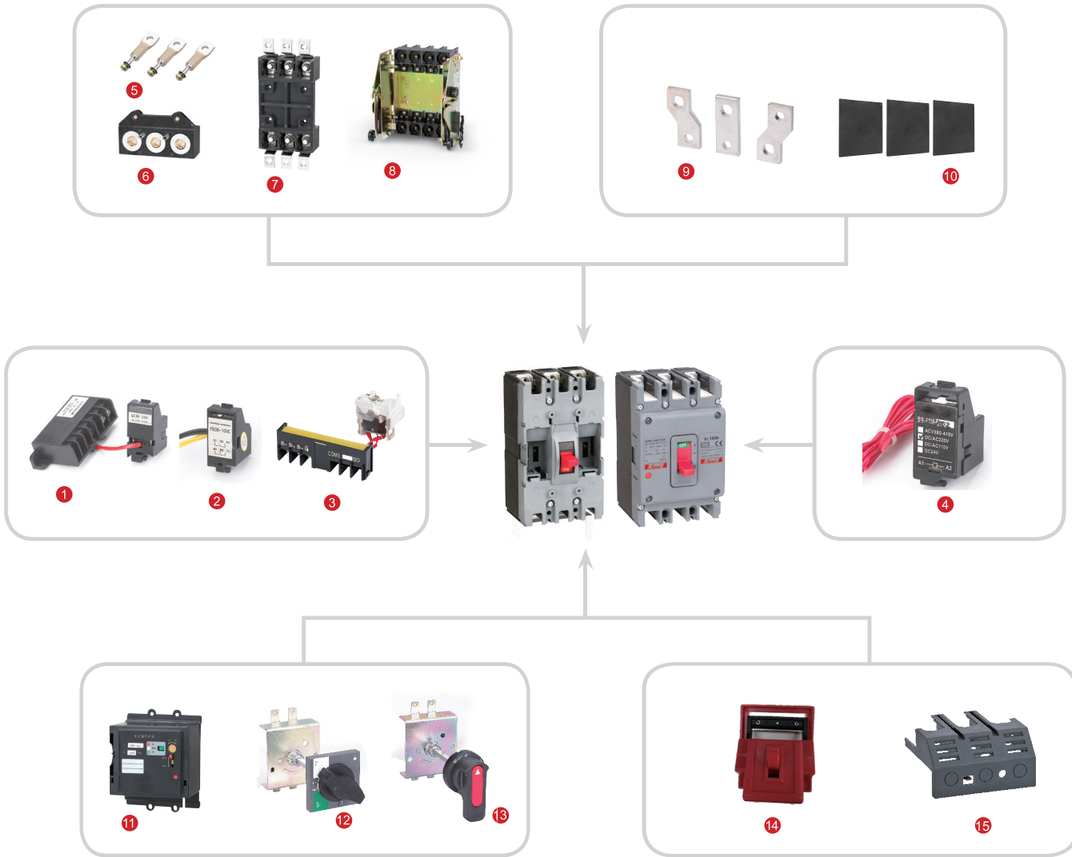
**Short circuit protection: magnetic protection Ii (Adjustable)**

Magnetic protection achieves short circuit protection through a magnetic trip device. The circuit breaker will trip instantaneously.
Magnetic adjustable range:5,6,7,8,9,10In

| Test No. | I | Breaker status | Connventional time |
|---|---|---|---|
| 1 | 80%Ii | Non-tripping | ≥0.2s |
| 2 | 120%Ii | Tripping | ≤0.2s |

## Accessories

**Overview of Accessories**




| | | | | | |
|---|---|---|---|---|---|
| 1 | Undervoltage release | 7 | Plug-in front connection | 13 | Round handle operating mechanism |
| 2 | Auxiliary contact | 8 | Withdrawable connection | 14 | Hand lock |
| 3 | Alarm contact | 9 | Extension terminal | 15 | Terminal cover |
| 4 | Shunt release | 10 | Interphase barriers | | |
| 5 | Fixed rear connection | 11 | Electric operating mechanism | | |
| 6 | Plug-in rear connection | 12 | Square handle operating mechanism | | |

Note:

For full information about the accessories. Please go on Himel website to download "MCCB catalogue"



LOW VOLTAGE DISTRIBUTION

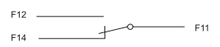
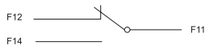
HDM3S MCCB

## Internal Accessories

**Auxiliary contact**

An accessory connected in the auxiliary circuit of the switching device to indicate the circuit breaker status of ON or not.

**Electrical wiring diagram**

| Accessory name | ON | OFF/TRIP |
|---|---|---|
| Auxiliary |  |  |

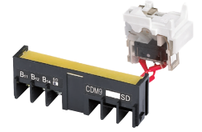


| Electrical parameters | | | |
|---|---|---|---|
| Conventional Thermal Current | | 3A | |
| Use category | | AC 15 | DC 13 |
| Working electricity 50Hz | AC 400V | 0.3A | |
| | DC 220V | | 0.15A |

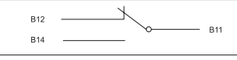
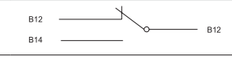
**Alarm contact**

An accessory used to indicate the circuit breaker status of ON or not. When the alarm contact indicates that the circuit breaker is at Trip status, there are the following five possibilities.

- Overload or short circuit fault.
- Residual current fault.
- Shunt release action.
- Line fault and undervoltage release action.



**Electrical wiring diagram**

| Accessory name | ON/OFF | TRIP |
|---|---|---|
| Alarm |  |  |



| Electrical parameters | | | |
|---|---|---|---|
| Conventional Thermal Current | | 3A | |
| Use category | | AC 15 | DC 13 |
| Working electricity 50Hz | AC 400V | 0.3A | |
| | DC 220V | | 0.15A |

**Undervoltage release**

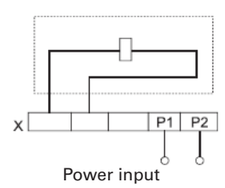
- The undervoltage release shall reliably trip the circuit breaker at the voltage between 35% and 70% of the rated operational voltage;
- The undervoltage release shall ensure that the circuit breaker can be switched on at the voltage between 85% and 110% of the rated operational voltage;
- The undervoltage release shall prevent the circuit breaker from switching on when voltage is below 35%of the rated operational voltagethe.

**Electric wiring diagram of undervoltage release**

**Wiring diagram**

Note: X- terminal block

Note: In the dashed box, it is the wiring diagram of accessories in the circuitbreaker.




**Electrical parameters**

| Electrical parameters | Undervoltage release power loss(W) | |
|---|---|---|
| | AC400V | AC230V |
| HDM3S-160 | 3.9 | 3.2 |
| HDM3S-250 | 4.3 | 3.3 |
| HDM3S-400/630 | 3.6 | 2.5 |

# HDM3S MCCB

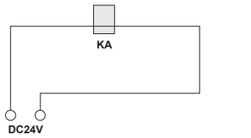
## Internal Accessories

### Shunt release

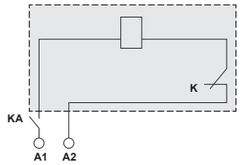
>The shunt release shall reliably trip the circuit breaker at the voltage between 70% and 110% of the rated control power voltage U

>The circuit breaker shall be reset on the site after tripping through the shunt release.

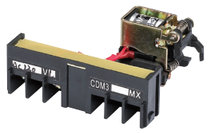
### Electrical wiring diagram




KA: DC24V intermediate relay with the contact current capacity of 1A




Power input



### Electrical parameters

| Product type | Shunt release power loss(W) | | |
|---|---|---|---|
| | AC400V | AC230V | DC24V |
| HDM3S-160 | 96.8 | 73 | 91.2 |
| HDM3S-250 | 112 | 68.6 | 85.3 |
| HDM3S-400/630 | 67 | 62.3 | 100 |

## External Accessories

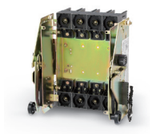
| Model | Fixed front | Fixed rear | Plug-in front | Plug-in rear | Withdrawable |
|---|---|---|---|---|---|
| HDM3S-160 | ■ | ■ | ■ | ■ | - |
| HDM3S-250 | ■ | ■ | ■ | ■ | - |
| HDM3S-400 | ■ | ■ | ■ | ■ | ■ |
| HDM3S-630 | ■ | ■ | ■ | ■ | ■ |



### 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.



### Draw out

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

## Extended Handle

### Handle operating mechanism

The circuit breaker can be operated by the rotation of the handle and the ergonomically designed rotation handle makes the operation of the circuit breaker more flexible.

### 2 types of rotation handle operating mechanisms:

>Direct rotation handle (round handle operating mechanism and square handle operating mechanism)

">Extended rotation handle (round extending handle operating mechanism and square extended handle operating mechanism)

### User visualization information/settings:

> 3 position indications: OFF, ON and TRIP

>The circuit breaker cannot be switched on when the door is open

>The door cannot be opened when the circuit breaker is switched on

>The axial length of the extended handle can be custom made according to the distance from the back of the circuit breaker to the door.



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# HDM3S MCCB

### Rear connection

Easy to install and connect the products in the rear connection.

### Expend termial

The extension terminal is connected to the standard terminal of the circuit breaker, in order to provide many other wiring schemes in the limited space:

>Direct extension terminal

>Extension terminal with inter-electrode distance

The busbar and extension terminal can be connected to the inlet or outlet terminal of the circuit breaker.

### Interphase barriers

The interphase barriers can enhance the insulating performances between phase and phases .

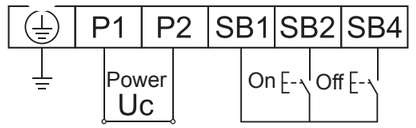
They can be installed from the product front even though the products had mounted.

Interphase barriers will be offered by standard, 3P product(4pcs), 4P product(6pcs).

### Motor

- Apply to remote electric connection, disconnection and re-trip of the circuit breaker and the automation control occasions.
- Rated voltage of electric operating mechanism: AC400V;AC230V/DC220V;AC/DC110V;DC24V
- Operating voltage range of electric operating mechanism: 85%-110% Ue.

### Electrical wiring diagram




### Electrical parameters

| Product type | IP degree | Current | Voltage | Switch on/off time | Electric life |
|---|---|---|---|---|---|
| HDM3S160 | 20 | ⩽ 1. 5A | 230v/380v | 1S | 12000 |
| HDM3S250 | 20 | ⩽ 1. 5A | 230v/380v | 1S | 12000 |
| HDM3S400/630 | 20 | ⩽ 2A | 230v/380v | 1S | 8000 |

### Terminal cover

Protection degree: IP40.

Protect from being contacted with main circuit.

Note: only for 3P.

### Handle lock

Locking the breaker at the status of making.

# HDM3S MCCB

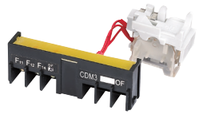
## Accessories Selection Guide

**Auxiliary contact with Wire**

| Frame size | Auxiliary contact with Wire | |
|---|---|---|
| | Contact | Left |
| HDM3S-160 | 1NC+1NO | HDM3S160OF11L |
| | 2NC+2NO | HDM3S160OF21L |
| HDM3S-250 | 1NC+1NO | HDM3S250OF11L |
| | 2NC+2NO | HDM3S250OF21L |
| HDM3S-400/630 | 1NC+1NO | HDM3S630OF11L |
| | 2NC+2NO | HDM3S630OF21L |


**Auxiliary contact with Terminal**

| Frame size | Auxiliary contact with terminal | |
|---|---|---|
| | Contact | Left |
| HDM3S-160 | 1NC+1NO | HDM3S160OF12L |
| | 2NC+2NO | HDM3S160OF22L |
| HDM3S-250 | 1NC+1NO | HDM3S250OF12L |
| | 2NC+2NO | HDM3S250OF22L |
| HDM3S-400/630 | 1NC+1NO | HDM3S630OF12L |
| | 2NC+2NO | HDM3S630OF22L |



**Alarm contact with Wire**

| Frame size | Alarm contact Wire |
|---|---|
| | Left |
| HDM3S-160 | HDM3S160AL1L |
| HDM3S-250 | HDM3S250AL1L |
| HDM3S-400/630 | HDM3S630AL1L |


**Alarm contact with Terminal**

| Frame size | Alarm contact terminal |
|---|---|
| | Left |
| HDM3S-160 | HDM3S160AL2L |
| HDM3S-250 | HDM3S250AL2L |
| HDM3S-400/630 | HDM3S630AL2L |

**Auxiliary Alarm with Wire**

| Frame size | Alarm contact Wire |
|---|---|
| | Left |
| HDM3S-160 | HDM3S160OFAL1L |
| HDM3S-250 | HDM3S250OFAL1L |
| HDM3S-400/630 | HDM3S630OFAL1L |






# HDM3S MCCB

**Auxiliary Alarm with Terminal**

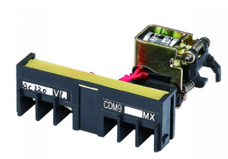
| Frame size | Alarm contact terminal |
|---|---|
| | Left |
| HDM3S-160 | HDM3S160OFAL2L |
| HDM3S-250 | HDM3S250OFAL2L |
| HDM3S-400/630 | HDM3S630OFAL2L |

**Shunt release with Wire**

| Frame size | Shunt release with Wire | |
|---|---|---|
| | Voltage | Right |
| HDM3S-160 | AC230V | HDM3S160MX1A2R |
| | AC400V | HDM3S160MX1A3R |
| | DC110V | HDM3S160MX1D1R |
| | DC220V | HDM3S160MX1D2R |
| | DC24V | HDM3S160MX1D3R |
| HDM3S-250 | AC230V | HDM3S250MX1A2R |
| | AC400V | HDM3S250MX1A3R |
| | DC110V | HDM3S250MX1D1R |
| | DC220V | HDM3S250MX1D2R |
| | DC24V | HDM3S250MX1D3R |
| HDM3S-400/630 | AC230V | HDM3S630MX1A2R |
| | AC400V | HDM3S630MX1A3R |
| | DC110V | HDM3S630MX1D1R |
| | DC220V | HDM3S630MX1D2R |
| | DC24V | HDM3S630MX1D3R |


**Shunt release with Terminal**

| Frame size | Shunt release with Terminal | |
|---|---|---|
| | Voltage | Right |
| HDM3S-160 | AC230V | HDM3S160MX2A2R |
| | AC400V | HDM3S160MX2A3R |
| | DC110V | HDM3S160MX2D1R |
| | DC220V | HDM3S160MX2D2R |
| | DC24V | HDM3S160MX2D3R |
| HDM3S-250 | AC230V | HDM3S250MX2A2R |
| | AC400V | HDM3S250MX2A3R |
| | DC110V | HDM3S250MX2D1R |
| | DC220V | HDM3S250MX2D2R |
| | DC24V | HDM3S250MX2D3R |
| HDM3S-400/630 | AC230V | HDM3S630MX2A2R |
| | AC400V | HDM3S630MX2A3R |
| | DC110V | HDM3S630MX2D1R |
| | DC220V | HDM3S630MX2D2R |
| | DC24V | HDM3S630MX2D3R |



# HDM3S MCCB

### Under voltage release with Terminal

| Frame size | Under voltage release with Terminal | |
|---|---|---|
| | Voltage | Right |
| HDM3S-160 | AC230V | HDM3S160MN2A2R |
| | AC400V | HDM3S160MN2A3R |
| | DC110V | HDM3S160MN2D1R |
| | DC220V | HDM3S160MN2D2R |
| | DC24V | HDM3S160MN2D3R |
| HDM3S-250 | AC230V | HDM3S250MN2A2R |
| | AC400V | HDM3S250MN2A3R |
| | DC110V | HDM3S250MN2D1R |
| | DC220V | HDM3S250MN2D2R |
| | DC24V | HDM3S250MN2D3R |
| HDM3S-400/630 | AC230V | HDM3S630MN2A2R |
| | AC400V | HDM3S630MN2A3R |
| | DC110V | HDM3S630MN2D1R |
| | DC220V | HDM3S630MN2D2R |
| | DC24V | HDM3S630MN2D3R |

### Plug-in

| Frame size | Plug-in | | |
|---|---|---|---|
| | Connection type | 3P | 4P |
| HDM3S-160 | Front connection | HDM3S160PF3 | HDM3S160PF4 |
| | Rear conection | HDM3S160PR3 | HDM3S160PR4 |
| HDM3S-250 | Front connection | HDM3S250PF3 | HDM3S250PF4 |
| | Rear conection | HDM3S250PR3 | HDM3S250PR4 |
| HDM3S-400/630 | Rear conection | HDM3S630PR3 | HDM3S630PR4 |

### Draw-out

| Frame size | Plug-in | | |
|---|---|---|---|
| | Connection type | 3P | 4P |
| HDM3S-400 | Horizontal conection | HDM3S400DOR3 | HDM3S400DOR4 |
| HDM3S-630 | Horizontal conection | HDM3S630DOR3 | HDM3S630DOR4 |

### Motor

| Frame size | Motor | | | | |
|---|---|---|---|---|---|
| | AC230V | AC400V | DC110V | DC220V | DC24V |
| HDM3S-160 | HDM3S160MOA2 | HDM3S160MOA3 | HDM3S160MOD1 | HDM3S160MOD2 | HDM3S160MOD3 |
| HDM3S-250 | HDM3S250MOA2 | HDM3S250MOA3 | HDM3S250MOD1 | HDM3S250MOD2 | HDM3S250MOD3 |
| HDM3S-400/630 | HDM3S630MOA2 | HDM3S630MOA3 | HDM3S630MOD1 | HDM3S630MOD2 | HDM3S630MOD3 |





# HDM3S MCCB

### Rotation Handle

| Frame size | Rotation Handle | | |
|---|---|---|---|
| | Handle shape | Direct | Extended (Defult 150mm) |
| HDM3S-160 | Round | HDM3S160H1 | HDM3S160HL1 |
| | Square | HDM3S160H2 | HDM3S160HL2 |
| HDM3S-250 | Round | HDM3S250H1 | HDM3S250HL1 |
| | Square | HDM3S250H2 | HDM3S250HL2 |
| HDM3S-400/630 | Round | HDM3S630H1 | HDM3S630HL1 |
| | Square | HDM3S630H2 | HDM3S630HL2 |

### Rear connection

| Frame size | Rear connection | |
|---|---|---|
| | 3P(6pcs) | 4P(8pcs) |
| HDM3S-160 | HDM3S160RC3 | HDM3S160RC4 |
| HDM3S-250 | HDM3S250RC3 | HDM3S250RC4 |
| HDM3S-400/630 | HDM3S630RC3 | HDM3S630RC4 |

### Expanding terminal

| Frame size | Expanding terminal | |
|---|---|---|
| | 3P(3pcs) | 4P(4pcs) |
| HDM3S-160 | HDM3S160C3 | HDM3S160C4 |
| HDM3S-250 | HDM3S250C3 | HDM3S250C4 |
| HDM3S-400/630 | HDM3S630C3 | HDM3S630C4 |

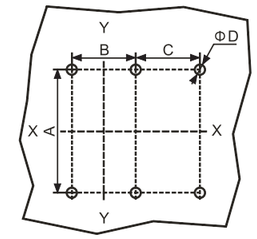
### Interphase barriers

| Frame size | Interphase barriers | |
|---|---|---|
| | 3P(2pcs) | 4P(3pcs) |
| HDM3S-160 | HDM3S160IB3 | HDM3S160IB4 |
| HDM3S-250 | HDM3S250IB3 | HDM3S250IB4 |
| HDM3S-400/630 | HDM3S630IB3 | HDM3S630IB4 |

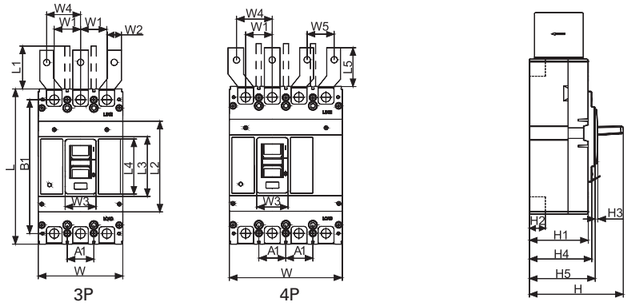
# HDM3S MCCB

## Fixed MCCB Mounting Dimension

Front connection(mm)



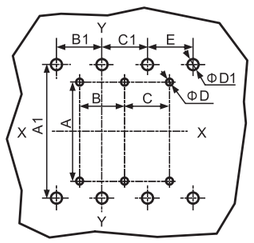

Note: X-X and Y-Y is the center of the three-pole breaker



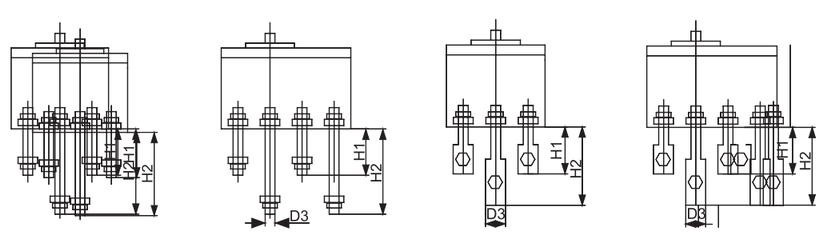

| Model | Poles | Installation dimension | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| HDM3S-160 | 3 | 132 | 30 | / | 4.5 |
| | 4 | 132 | 30 | 30 | 4.5 |
| HDM3S-250 | 3 | 126 | 35 | / | 4.5 |
| | 4 | 126 | 35 | 35 | 4.5 |
| HDM3S-400/630 | 3 | 194 | 44 | / | 7 |
| | 4 | 194 | 44 | 44 | 7 |

| Model | Poles | Overall dimensions | | | | | | | | | | | | | | | | Installation dimension | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L | L1 | L2 | L3 | L4 | L5 | W | W1 | W2 | W3 | W4 | W5 | H | H1 | H2 | H3 | H4 | H5 | A1 | B1 |
| HDM3S-160 | 3P | 155 | 98 | 121 | 55 | 50 | 21.8 | 90 | 30 | 15 | 25.3 | 39 | / | 107 | 75 | 20 | 2.6 | 82 | 87 | 30 | 134 |
| | 4P | 155 | 98 | 121 | 55 | 50 | 21.8 | 120 | 30 | 15 | 25.3 | 39 | 30 | 107 | 75 | 20 | 2.6 | 82 | 87 | 30 | 134 |
| HDM3S-250 | 3P | 165 | 98 | 102 | 59 | 50 | 41.8 | 105 | 35 | 20 | 24 | 42 | / | 116 | 81 | 23 | 3 | 88 | 93 | 35 | 144 |
| | 4P | 165 | 98 | 102 | 59 | 50 | 41.8 | 140 | 35 | 20 | 24 | 42 | 35 | 116 | 81 | 23 | 3 | 88 | 93 | 35 | 144 |
| HDM3S-400/630 | 3P | 257 | 98 | 150 | 99 | 91 | 45.4 | 140 | 43.5 | 28 | 51 | 56 | / | 150 | 97 | 30 | 4 | 103 | 109 | 44 | 230 |
| | 4P | 257 | 98 | 150 | 99 | 91 | 45.4 | 185 | 43.5 | 28 | 51 | 56 | 44 | 150 | 97 | 30 | 4 | 103 | 109 | 44 | 230 |

Rear connection(mm)




Note: X-X and Y-Y is the center of the three-pole breaker




| Model | Poles | Dimensions | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | A1 | B1 | C1 | E | D1 | H1 | H2 | D3 |
| HDM3S-160 | 3 | 132 | 30 | / | 4.5 | 134 | 30 | 30 | / | 9.8 | 112 | 72 | ϕ8 |
| | 4 | 132 | 30 | 30 | 4.5 | 134 | 30 | 30 | 30 | 9.8 | 112 | 72 | ϕ8 |
| HDM3S-250 | 3 | 126 | 35 | / | 4.5 | 144 | 35 | 35 | / | 8 | 126 | 87 | ϕ8 |
| | 4 | 126 | 35 | 35 | 4.5 | 144 | 35 | 35 | 35 | 8 | 126 | 87 | ϕ8 |
| HDM3S-400 | 3 | 194 | 44 | / | 7 | 230 | 43.5 | 43.5 | / | 10.5 | 136 | 83 | 30 |
| | 4 | 194 | 44 | 44 | 7 | 230 | 43.5 | 43.5 | 44 | 10.5 | 136 | 83 | 30 |
| HDM3S-630 | 3 | 194 | 44 | / | 7 | 230 | 43.5 | 43.5 | / | 10.5 | 136 | 83 | 32 |
| | 4 | 194 | 44 | 44 | 7 | 230 | 43.5 | 43.5 | 44 | 10.5 | 136 | 83 | 32 |

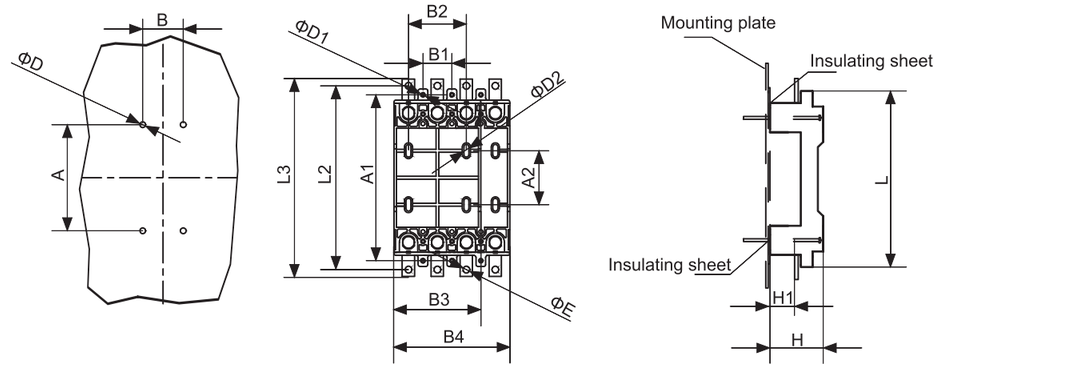




# HDM3S MCCB

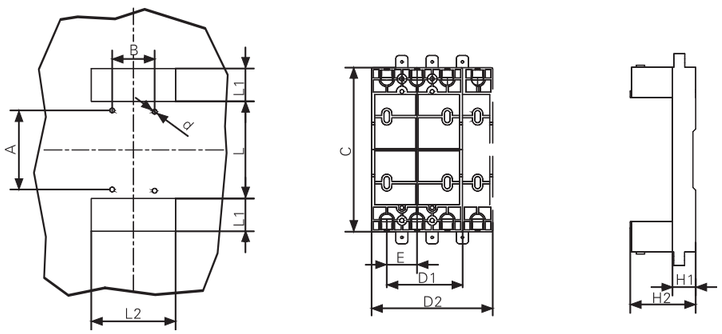
## Plug-in MCCB Mounting Dimension

Front connection (mm)




| Model | Poles | Dimension | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | L2 | L3 | D | E | H | H1 | L | A1 | B1 | D1 | A2 | B2 | B3 | B4 | D2 |
| HDM3S-160 | 3 | 112 | 30 | 200 | 216 | 4.5 | 6.5 | 56 | 28 | 182 | 172 | 30 | 5.5 | 67 | 60 | 90 | - | 6.5 |
| | 4 | 112 | 30 | 200 | 216 | 4.5 | 6.5 | 56 | 28 | 182 | 172 | 30 | 5.5 | 67 | 60 | - | 120 | 6.5 |
| HDM3S-250 | 3 | 150 | 35 | 223 | 243 | 4.5 | 8.5 | 74 | 33 | 202 | 191 | 35 | 5.5 | 74 | 70 | 105 | - | 6.5 |
| | 4 | 150 | 35 | 223 | 243 | 4.5 | 8.5 | 74 | 33 | 202 | 191 | 35 | 5.5 | 74 | 70 | - | 140 | 6.5 |
| HDM3S-400 | 3 | 249 | 44 | 332 | 358 | 5.5 | 10.5 | 85 | 36 | 310 | 295 | 44 | 6.5 | 146 | 88 | 140 | - | 7 |
| | 4 | 249 | 44 | 332 | 358 | 5.5 | 10.5 | 85 | 36 | 310 | 295 | 44 | 6.5 | 146 | 88 | - | 184 | 7 |
| HDM3S-630 | 3 | 249 | 44 | 332 | 358 | 5.5 | 10.5 | 85 | 36 | 310 | 295 | 44 | 6.5 | 146 | 88 | 140 | - | 7 |
| | 4 | 249 | 44 | 332 | 358 | 5.5 | 10.5 | 85 | 36 | 310 | 295 | 44 | 6.5 | 146 | 88 | - | 184 | 7 |

Rear connection(mm)

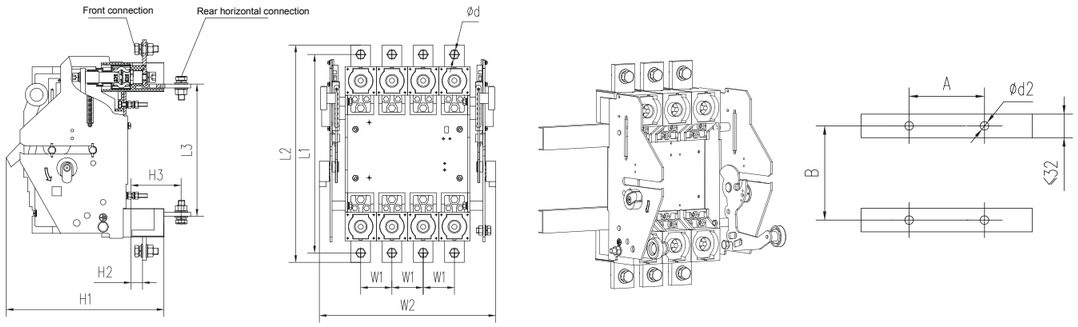



| Model | Poles | Dimensions | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | L | L1 | L2 | d | C | D1 | D2 | E | H1 | H2 |
| HDM3S-160 | 3 | 67 | 60 | 90 | 51 | 94 | φ6.5 | 162 | 90 | - | 30 | 20 | 56 |
| | 4 | 67 | 90 | 90 | 51 | 124 | φ6.5 | 162 | - | 120 | 30 | 20 | 56 |
| HDM3S-250 | 3 | 74 | 70 | 100 | 55 | 110 | φ6.5 | 179 | 105 | - | 35 | 27 | 73 |
| | 4 | 74 | 105 | 100 | 55 | 145 | φ6.5 | 179 | - | 140 | 35 | 27 | 73 |
| HDM3S-400 | 3 | 146 | 88 | 183 | 70 | 135 | φ7 | 279 | 132 | - | 44 | 45 | 85 |
| | 4 | 146 | 132 | 183 | 70 | 179 | φ7 | 279 | - | 176 | 44 | 45 | 85 |
| HDM3S-630 | 3 | 146 | 88 | 183 | 70 | 135 | φ7 | 279 | 132 | - | 44 | 45 | 85 |
| | 4 | 146 | 132 | 183 | 70 | 179 | φ7 | 279 | - | 176 | 44 | 45 | 85 |

# HDM3S MCCB

## Draw out Mounting Dimension

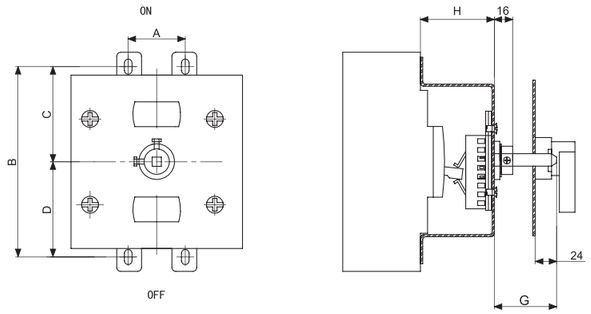
Rear connection(mm)




| Model | Installation dimension | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | L1 | L2 | L3 | H2 | H3 | W1 | W2 | ϕ D | A | B | ϕ c |
| HDM3S-400 | 316 | 345 | 210 | 25 | 78 | 44 | 211 | 11 | 88 | 146 | 6.5 |
| HDM3S-630 | | | | | | | | | | | |

## Rotary Handle Dimensions

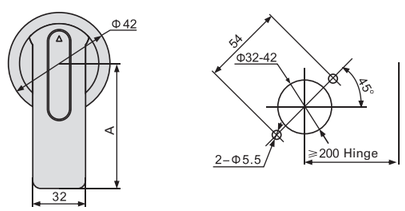
Mounting with MCCB dimensions(mm)




| Model | A | B | C | D | H |
|---|---|---|---|---|---|
| HDM3S-160 | 30 | 132 | 66 | 66 | 46 |
| HDM3S-250 | 35 | 126 | 63 | 63 | 51 |
| HDM3S-400 | 128 | 194 | 97 | 97 | 76 |

Note: Default is 150mm

Handle and door cutting dimensions(mm)

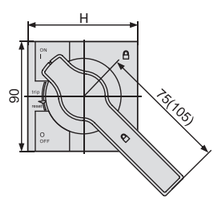


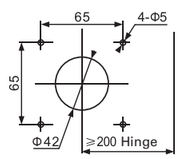




Round handle dimensions

| Model | A |
|---|---|
| HDM3S-160 | 60/90 |
| HDM3S-250 | 60/90 |
| HDM3S-400/630 | 60/90 |




Square handle dimensions

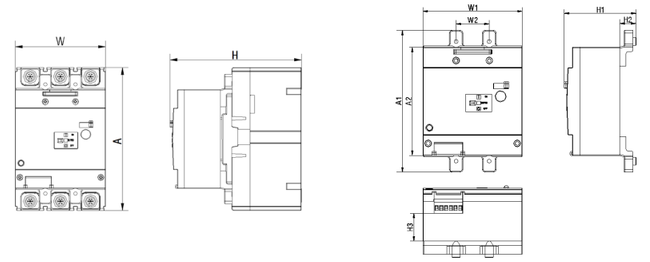
| Model | H |
|---|---|
| HDM3S-160 | 90 |
| HDM3S-250 | 90 |
| HDM3S-400/630 | 90 |





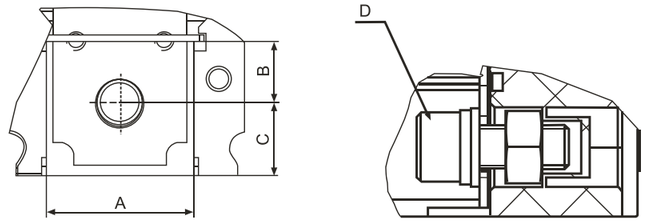
# HDM3S MCCB

## Motor Mounted wtih MCCB Dimensions (mm)




| Model | A | A1 | A2 | W | W1 | W2 | H | H1 | H2 | H3 |
|---|---|---|---|---|---|---|---|---|---|---|
| HDM3S-160 | 155 | 144 | 109.5 | 90 | 90 | 30 | 151 | 78.2 | 16.7 | 34.2 |
| HDM3S-250 | 165 | 149.6 | 114 | 105 | 105 | 35 | 153.5 | 75.8 | 17.2 | 29.5 |
| HDM3S-400 | 257 | 212 | 177 | 140 | 140 | 44 | 170.5 | 77 | 16.3 | 32.5 |
| HDM3S-630 | 257 | 212 | 177 | 140 | 140 | 44 | 170.5 | 77 | 16.3 | 32.5 |
| HDM3S-800 | 275.5 | 264 | 174 | 210 | 210 | 70 | 188.5 | 95 | 17 | 45 |

## Terminal Connection Dimensions (mm)




| Model | A | B | C | D |
|---|---|---|---|---|
| HDM3-160 | 16 | 7.7 | 10.5 | M8*20 |
| HDM3-250 | 21 | 10 | 11 | M8*20 |
| HDM3-400 | 27.5 | 15.3 | 13.4 | M10*30 |
| HDM3-630 | 27.5 | 15.3 | 13.4 | M10*30 |

## Copper Conductors Size for up to 400A MCCB

| Rated current A | mm² | 25 | 32 | 40 50 | 63 | 80 | 100 | 125 140 | 160 | 200 | 250 | 315 | 400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cross-section of conductor | mm² | 4 | 6 | 10 | 16 | 25 | 35 | 50 | 70 | 95 | 120 | 185 | 240 |

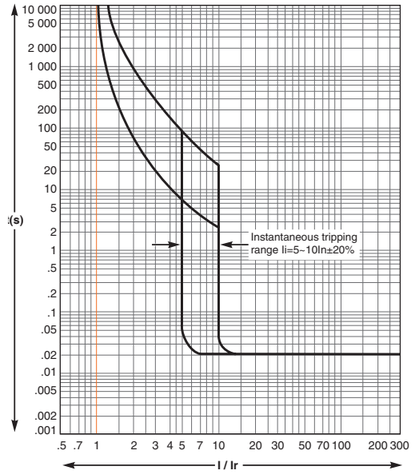
## Copper Conductors or Bars Size for above 400A MCCB

| Rated current A | Quantity | Copper conductors Cross section mm² | Copper busbar Size:mm*mm |
|---|---|---|---|
| 500 | 2 | 150 | 30*5 |
| 630 | 2 | 185 | 30*5 |

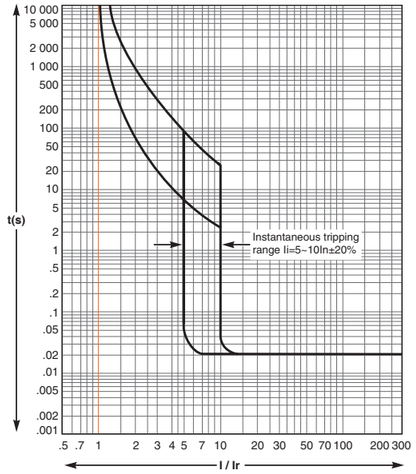
# HDM3S MCCB

## Tripping Curves

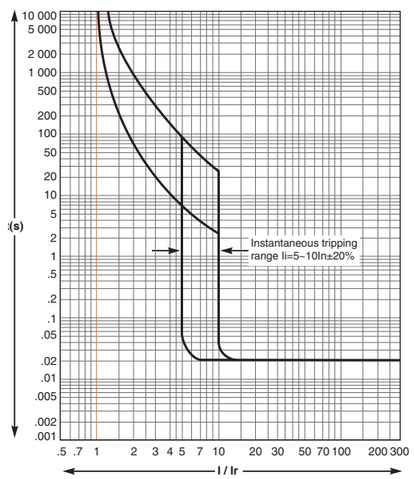
HDM3S-160



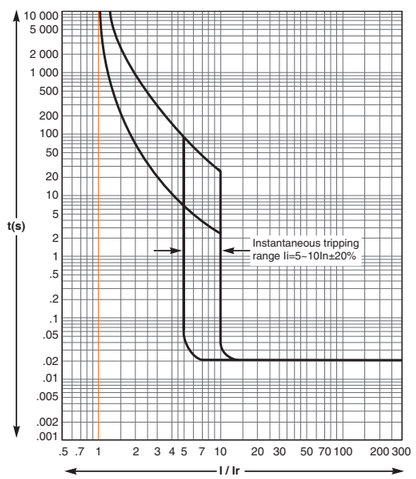

HDM3S-250




HDM3S-400




HDM3S-630








# HDM3/3v/3L/3E Series MCCB

## Range Presentation

**HDM3 & HDM3v**: Himel 3 series range of MCCB with thermal magnetic trip unit.
Rated current: 10A-1600A.
Pole: 2P, 3P, 4PB (N pole on the right, movable together with other pole, without protection).
Trip method: Fixed thermal and magnetic trip unit.
Protection: Line protection (L+I) and motor protection (I only-3 elements Motor application).
**Notes**: HDM3v is HDM3 upgrade version with simlar platform.

**HDM3L & HDM3Lv**: Himel 3 series range of earth leakage MCCB with thermal magnetic trip unit.
Rated current: 16A-800A.
Pole: 3P, 4PB (N pole on the right, movable together with other pole, without protection).
Trip method: Fixed thermal and magnetic trip unit.
Protection: Line protection (L+I) and motor protection (I only-3 elements Motor application).
**Notes**: HDM3Lv will be launch soon.

**HDM3E**: Himel 3 series range of MCCB with electronic trip unit.
Rated current: 16A-1600A.
Pole: 3P 4PC (N pole on the right, movable together with other pole, with protection).
Trip method: Electronic trip unit.
Protection: Line protection (Selectivity, L+S+I), Motor protection (L off-3 elements protection, L/S/I On-2 elements protection), Disconnect (L/S/I off) application .

## Features

**Easy Installation and Safe Operation**

- Double-deck cover design assures easy installion and removal of internal accessories.

**Full range of accessories**

- Full series share internal accessories.
- New accessories for HDM3v. Pad lock, Long terminal cover with back plate, 0 arc extinguish kits.....
- Seperatet Modbus RTU communication modle with RS485 connection.(Suitable for whole series)

**High Performance**

- Seperated Modbus RTU communication modle with RS485 connection.(Suitable for whole series)
- Suitable for wide environment conditions, Max.-40°C~+70°C. Temperature derating needed

# HDM3/3v/3L/3E Series MCCB

## Operating Conditions

**Pollution Degree**

HDM3 products operate in the environment (industrial environment) with pollution class 3 defined in IEC/EN 60947-1 and IEC/EN 60947-2 standards.

**Wet and heat resistance**

Dry and cold
Dry and heat
Wet and heat

**Environment temperature**

- HDM3 series can work for a long time under normal environment and operating temperature between -25 ˚C and 50˚C .
- Refer to the temperature derating factor table or contact us if the operating ambient temperature exceeds 50˚C (Or low than -25˚C ).
- Storage temperature ranges between -40˚C to 70˚C .

**Altitude**

- Altitude at normal installation site does not exceed 2000m.
- If the altitude exceeds 2000m, the changes in the dielectric strength and the air temperature drop must be considered. Refer to the altitude derating factor table or contact us.

**Humidity**

The following conditions must be met during normal operation:

- The relative humidity of atmosphere does not exceed 50% if the ambient air temperature is +40˚C .The product can be used at a high relative humidity if the temperature is low.
- The monthly average relative humidity at the wettest month is 90%.
- The impact of the condensation generated on the product surface on the product property shall be considered.

**Reliable contact indication with isolating function**

HDM3 moulded case circuit breaker complies with the isolation defined in IEC standard 60947-2

- The isolated location corresponds to O (OFF)
- The operating handle can indicate “OFF" only when the contact is really open
- he rotation handle or electric operating mechanism will not change the reliability of the contact indication system. Through the test, the isolating function must guarantee:

- Mechanical reliability of contact indication system
- No leakage current
- There is a certain overvoltage resistance capacity between the Line and Load terminals.

**Protection class**

- IP protection class of circuit breaker body: IP20(Terminal :IP00)
- Circuit breaker installed in the switch cabinet:
  circuit breaker with a toggle handle:IP40
  circuit breaker with an electric operating mechanism:IP40



LOW VOLTAGE DISTRIBUTION

# HDM3/3v/3L/3E Series MCCB

## 3 Series Current Range

**HDM3 & HDM3v @40degree**

| Frame size In(A) | Short circuit class | Platform | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 315 | 350 | 400 | 500 | 630 | 700 | 800 | 1000 | 1250 | 1600 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDM3-100 | L/S | 1 | 3P/4PB | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HDM3-100 | T/N | 2 | | | | | | 3P/4PB | | | | | | | | | | | | | | | | | | | | | |
| HDM3v-125 | C | 1 | 2P | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HDM3-160 | L/S | 3 | | | | | | | | | | 3P/4PB | | | | | | | | | | | | | | | | | |
| HDM3-160 | T/N | 4 | | | | | | | | | | 3P/4PB | | | | | | | | | | | | | | | | | |
| HDM3-250 | L/S | 3 | | | | | | | | | | | | | | 3P/4PB | | | | | | | | | | | | | |
| HDM3-250 | T/N | 4 | | | | | | | | | | | | | | 3P/4PB | | | | | | | | | | | | | |
| HDM3v-250 | S | 3 | | | | | | | | | | 2P | | | | | | | | | | | | | | | | | |
| HDM3-400 | F/T/N | 5 | | | | | | | | | | | | | | | 3P/4PB | | | | | | | | | | | | |
| HDM3-630 | F/T/N | 5 | | | | | | | | | | | | | | | | | | | | 3P/4PB | | | | | | | |
| HDM3v-630b | M/N | 6 | | | | | | | | | | | | | | | | | | | | 3P/4PB | | | | | | | |
| HDM3v-800 | M/N | 8 | | | | | | | | | | | | | | | | | | | | | | 3P/4PB | | | | | |
| HDM3-1600 | **N** | **9** | | | | | | | | | | | | | | | | | | | | | | | | 3P | | | |

**HDM3 & HDM3v @50degree**

| Frame size In(A) | Short circuit class | Platform | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 315 | 350 | 400 | 500 | 630 | 700 | 800 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDM3-100 | S | 1 | 3P/4PB | | | | | | | | | | | | | | | | | | | | | | | |
| HDM3-100 | F/N | 2 | | | | | | 3P/4PB | | | | | | | | | | | | | | | | | | |
| HDM3-250 | S | 3 | | | | | | | | | | 3P/4PB | | | | | | | | | | | | | | |
| HDM3-250 | F/N | 4 | | | | | | | | | | 3P/4PB | | | | | | | | | | | | | | |
| HDM3-400 | S/F/N | 5 | | | | | | | | | | | | | | | | 3P/4PB | | | | | | | | |
| HDM3v-630b | M/N | 6 | | | | | | | | | | | | | | | | | | | | | 3P/4PB | | | |
| HDM3v-800 | M/N | 8 | | | | | | | | | | | | | | | | | | | | | | 3P/4PB | | |

HDM3 HDM3v

# HDM3/3v/3L/3E Series MCCB

### HDM3L @40degree

| Frame size In(A) | Short circuit class | Platform | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 315 | 350 | 400 | 500 | 630 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDM3L-125 | F | 2 | | 3P/4PB | | | | | | | | | | | | | | | | | | | | |
| HDM3L-160 | F | 4 | | | | | | | | | | 3P/4PB | | | | | | | | | | | | |
| HDM3L-250 | F | 4 | | | | | | | | | | | | | | 3P/4PB | | | | | | | | |
| HDM3L-400 | F | 5 | | | | | | | | | | | | | | | 3P/4PB | | | | | | | |
| HDM3L-630 | F | 7 | | | | | | | | | | | | | | | | | | | | 3P/4PB | | |

### HDM3E@40degree/50degree

| Frame size In(A) | Short circuit class | Platform | 32 | 63 | 100 | 125 | 160 | 250 | 400 | 630 | 800 | 1000 | 1250 | 1600 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDM3E-125 | M | 4 | 3P/4PC | | | | | | | | | | | |
| HDM3E-250 | M | 4 | | | | | 3P/4PC | | | | | | | |
| HDM3E-400 | M | 5 | | | | | | | 3P/4PC | | | | | |
| HDM3E-630 | M | 5 | | | | | | | | 3P/4PC | | | | |
| HDM3E-800 | M | 8 | | | | | | | | | 3P/4PC | | | |
| HDM3E-1600 | M | 10 | | | | | | | | | | 3P/4PC | | |

## Online Content

HDM3 & HDM3v

HDM3E

HDM3L





# HDM3/3v/3L/3E Series MCCB

## Selection Guide

**HDM3 & HDM3v MCCB with thermal magnetic trip unit. Selection Code @40°C products**

| Range Name | Frame Size (AF) | Breaking Capacity (Icu/Ics kA) | Rated current (A) | Poles | Trip Unit And Protection |
|---|---|---|---|---|---|
| **HDM3v** | **800** | **M** | **800** | **3** | **3XX** |
| **HDM3** | **100:** 100 | **L:** 18/18<br>**S:** 25/18 | 10,16,20,25,32,<br>40,50,63,80,100 | **3:** 3P<br>**B:** 4PB[1)] | **2XX2:** Mag only motor protection,<br>**3XX:** Mag-Thermal line protection |
| | | **T:** 30/30<br>**N:** 50/30 | 40,50,63,80,100 | | |
| **HDM3v** | **125:** 125 | **C:** 25/15 | 10,16,20,25,32,40,50,63,80,<br>100,125 | **2:** 2P | |
| **HDM3** | **160:** 160 | **L:** 21/21<br>**S:** 35/21 | 100,125,140,160 | **3:** 3P<br>**B:** 4PB[1)] | |
| | | **T:** 36/36<br>**N:** 60/36 | | | |
| | **250:** 250 | **L:** 21/21<br>**S:** 35/21 | 180,200,225,250 | | |
| | | **T:** 36/36<br>**N:** 60/36 | | | |
| **HDM3v** | **250:** 250 | **S:** 35/21 | 100,125,140,160,180,200,<br>225,250 | **2:** 2P | |
| **HDM3** | **400:** 400 | **F:** 50/30<br>**T:** 39/39<br>**N:** 70/39 | 200,225,250,315,350,400 | **3:** 3P<br>**B:** 4PB[1)] | |
| | **630:** 630 | **F:** 50/30<br>**T:** 39/39<br>**N:** 70/39 | 500,630 | | |
| **HDM3v** | **630b:** 630 | **M:** 50/50<br>**N:** 75/50 | 4X 400<br>5X 500<br>6X 630 | | |
| **HDM3v** | **800:** 800 | **M:** 50/50<br>**N:** 75/50 | 630,700,800 | | **3XX:** Mag-Thermal line protection |
| **HDM3** | **1600:** 1600 | **N:**70/50 | 800,1000,1250,1600 | **3:** 3P | |

1) 4PB: The N phase is equipped with contacts, but without protection. It closes earlier and opens later than the other 3 poles.

# HDM3/3v/3L/3E Series MCCB

**HDM3 & HDM3v MCCB with thermal magnetic trip unit. Selection Code @50°C products**

| Range Name | Frame Size (AF) | Breaking Capacity (Icu/Ics kA) | Rated current (A) | Poles | Trip Unit And Protection | Temperature |
|---|---|---|---|---|---|---|
| **HDM3** | **250** | **S** | **250** | **8** | **3XX** | **T** |
| **HDM3** | **100:** 100 | **S:** 25/18 | 10,16,20,25,32,40, 50,63,80,100 | **3:** 3P<br>**B:** 4PB[1] | **2XX2:** Mag only motor protection<br>**3XX:** Mag-Thermal line protection | T: 50°C |
| | | **F:** 35/26<br>**N:** 50/30 | 40,50,63,80,100 | | | |
| | **250:** 250 | **S:** 35/21 | 100,125,140,160, 180,200,225,250 | | | |
| | | **F:** 50/30<br>**N:**60/36 | | | | |
| | **400:** 400 | **S:** 35/21<br>**F:** 50/30<br>**N:** 70/39 | 200,225,250, 315,350,400 | | | |
| **HDM3v** | **630b:** 630 | **M:** 50/50<br>**N:** 75/50 | 4X 400<br>5X 500<br>6X 630 | | | |
| **HDM3v** | **800:** 800 | **M:** 50/50<br>**N:** 75/50 | 630,700,800 | | **3XX:** Mag-Thermal,line protection | |

1) 4PB: The N phase is equipped with contacts, but without protection. It closes earlier and opens later than the other 3 poles.





# HDM3/3v/3L/3E Series MCCB

**HDM3L & HDM3Lv Earth Leakage MCCB with thermal magnetic trip unit. Selection Code @40°C products**

| Range Name | Frame Size | Breaking capacity | Rated current | Poles | Trip unit and Protection | Residual current | Time delay |
|---|---|---|---|---|---|---|---|
| **HDM3L** | **125** | **F** | **100** | **B** | **3X0** | **A** | **0** |
| **HDM3L** | **125:** 125 | **F:**50/30 | 16,20,25,32,40,50,63, 80,100,125 | **3:** 3P<br>**B*:** 4PB[1] | **3X0:** Mag-Thermal, Line protection | **A:** 30/100/300[2]<br>**B:** 100/300/500 | **0:** No delay<br>**1:** 0.1/0.2/0.3<br>**2:** 0.4/0.5/1 |
| | **160:** 160 | | 100,125,140,160 | | | **A:** 30/100/300[2]<br>**B:** 100/300/500 | |
| | **250:** 250 | | 180, 200,225,250 | | | **A:** 30/100/300[2]<br>**B:** 100/300/500 | |
| | **400:** 400 | **F:** 70/42 | 200,225,250,315, 350,400 | | | **B:** 100/300/500<br>**C:** 300/500/1000 | |
| | **630:** 630 | **F:** 70/40 | 400,500,630 | | | **B:** 100/300/500<br>**C:** 300/500/1000 | **0:** No delay<br>**3:** 0.1/0.3/0.5 |

1) 4PB: The N phase is equipped with contacts, but without protection. It closes earlier and opens later than the other 3 poles.
2) 30/100/300: 30mA use for human protection without time dealy.

**HDM3E MCCB with electronic trip unit. Selection Code @40°C & 50°C products**

| Range Name | Frame Size | Breaking capacity | Rated current | Poles | Trip unit and Protection | Temperature |
|---|---|---|---|---|---|---|
| **HDM3E** | **250** | **M** | **250** | **3** | **3XX** | **T** |
| **HDM3E** | **125:** 125 | **M:** 50/50 | 16,20,25,32,40,50,63, 80,100,125 | **3:** 3P<br>**C:** 4PC[1] | **3XX:** Mag-Thermal, Line protection | Default: 40°C<br>**T:** 50°C |
| | **250:** 250 | | 100,125,140,160 | | | |
| | **400:** 400 | | 160,180, 200, 225,250 | | | |
| | **630:** 630 | | 200,225,250,315, 350,400 | | | |
| | **800:** 800 | | 400,500,630 | | | |

**HDM3E-1600 MCCB with electronic trip unit. @40°C & 50°C products**

| Series Name | Frame size | Breaking capacity | Rated current | Poles | Install -ation | MCH+XF | MX | MN | Controller | Temperature |
|---|---|---|---|---|---|---|---|---|---|---|
| **HDM3E** | **16** | **M** | **250** | **3** | **F** | **5** | **5** | **5** | **L** | **T** |
| **HDM3E** | **16 :** 1600 | **M:** 50/50 | **10:** 1000<br>**12:** 1250<br>**16:** 1600 | **3:** 3P<br>**4:** 4PC[1] | **F:** Fixed front connection | **5:** Without MCH+XF<br>**N:** AC230V<br>**V:** AV400V<br>**D:** DC220V | **5:** Without Shunt release<br>**N:** AC230V<br>**V:** AV400V<br>**D:** DC220V | **5:** Without undervoltage release<br>**N:** AC230V<br>**V:** AV400V | **L:** iTR326 | **Default:** 40°<br>**T:** 50° |

1) 4PC: The N phase is equipped with contacts and with protection. It closes earlier and opens later than the other 3 poles.

# HDM3/3v/3L/3E Series MCCB

| HDM3&HDM3v Technical Parameters-@ 40° Products | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Frame size** | | **HDM3-100** | | | | **HDM3v-125** | **HDM3-160** | | | | **HDM3v-250** | **HDM3-250** | | |
| Rated insulation Voltage Ui(V) | | 800 | | | | 800 | 800 | | | | 800 | 800 | | |
| Rated impulse withstand voltage Uimp(kV) | | 8 | | | | 8 | 8 | | | | 8 | 8 | | |
| Rated working voltage Ue (V) | | 400/415 | | | | 230/240/400/415 | 400/415 | | | | 230/240/400/415 | 400/415 | | |
| Rated current In (A) | | 10/16/20/25/32/40/50/63/80/100 | | 40/50/63/80/100 | | 10/16/20/25/32/40/50/63/80/100/125 | 100/125/140/160 | | | | 100/125/140/160/180/200/225/250 | 180/200/225/250 | | |
| Pole | | 3P/4PB | | | | 2P | 3P/4PB | | | | 2P | 3P/4PB | | |
| Use Category | | A | | | | | A | | | | A | A | | |
| Short-circuit class | | L | S | T | N | C | L | S | T | N | S | L | S | T | N |
| Icu @AC230/240V (kA) | | - | - | - | - | 36 | - | - | - | - | 50 | - | - | - | - |
| Icu @AC400/415V (kA) | | 18 | 25 | 30 | 50 | 25 | 21 | 35 | 36 | 60 | 35 | 21 | 35 | 36 | 60 |
| Icu @AC500V (kA) | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Icu @AC690V (kA) | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ics @AC230/240V (kA) | | - | - | - | - | 25 | - | - | - | - | 35 | - | - | - | - |
| Ics @AC415V (kA) | | 18 | 18 | 30 | 30 | 15 | 21 | 21 | 36 | 36 | 21 | 21 | 21 | 36 | 36 |
| Ics @AC500V (kA) | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ics @AC690V (kA) | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mechinal life time (with maintace) | | 40000 | | | | 40000 | 40000 | | | | 40000 | 40000 | | |
| Mechinal life time (without maintace) | | 20000 | | | | 20000 | 20000 | | | | 20000 | 20000 | | |
| Electric life time @AC415V | | 8000 | | | | 8000 | 8000 | | | | 8000 | 8000 | | |
| Electric life time @AC690V | | - | | | | - | - | | | | - | - | | |
| Protection type | Line protection: TM 10In (Below 40A Ii=400A) | ■ | | | | ■ | ■ | | | | ■ | ■ | | |
| | Motor protection: M 12In (Below 40A Ii=400A) | ■ | | | | ■ | ■ | | | | ■ | ■ | | |
| Isolate function | | ■ | | | | | ■ | | | | ■ | ■ | | |
| **Connection method** | | | | | | | | | | | | | | |
| Fix front | | ■ | ■ | | | ■ | ■ | ■ | | | ■ | ■ | ■ | |
| Fix rear | | ■ | ■ | | | - | ■ | ■ | | | - | ■ | ■ | |
| Plug-in front | | ■ | ■ | | | - | ■ | ■ | | | - | ■ | ■ | |
| Plug-in rear | | ■ | ■ | | | - | ■ | ■ | | | - | ■ | ■ | |
| Draw-out | | - | - | | | - | - | - | | | - | - | - | |
| Certificate | | TUV,CE,CB | KEMA,CE,CB | | | TUV,CE,CB | KEMA,CB,CE | | | | TUV,CE,CB | KEMA,CE,CB | | |
| Dimension (WxHxD) | 2P | - | - | | | 56x132x66 | - | | | | 79x165x77 | - | | |
| | 3P | 75x130x68 | 92x150x93.3 | | | - | 107x165x76 | 107x165x94 | | | - | 107x165x76 | 107x165x94 | |
| | 4P | 100x130x68 | 122x150x93.3 | | | - | 142x165x76 | 142x165x94 | | | - | 142x165x76 | 142x165x94 | |

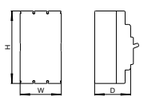


LOW VOLTAGE DISTRIBUTION

# HDM3/3v/3L/3E Series MCCB

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **HDM3-400** | | | **HDM3-630** | | | **HDM3v-630b** | | **HDM3v-800** | | **HDM3-1600** |
| 800 | | | 800 | | | 800 | | 800 | | 800 |
| 8 | | | 8 | | | 8 | | 8 | | 12 |
| 400/415 | | | 400/415 | | | 400/415/500/690 | | 400/415/500/690 | | 400/415 |
| 250/315/400 | | | 500/630 | | | 400/500/630 | | 630/700/800 | | 800/1000/1250/1600 |
| 3P/4PB | | | 3P/4PB | | | 3P/4PB | | 3P/4PB | | 3P |
| A | | | A | | | A | | A | | A |
| F | T | N | F | T | N | M | N | M | N | N |
| - | - | - | - | - | - | - | - | - | - | - |
| 50 | 39 | 70 | 50 | 39 | 70 | 50 | 75 | 50 | 75 | 70 |
| - | - | - | - | - | - | 10 | 10 | 10 | 10 | - |
| - | - | - | - | - | - | 10 | 10 | 10 | 10 | - |
| - | - | - | - | - | - | - | - | - | - | |
| 30 | 39 | 39 | 30 | 39 | 39 | 50 | 50 | 50 | 50 | 50 |
| - | - | - | - | - | - | 10 | 10 | 10 | 10 | - |
| - | - | - | - | - | - | 10 | 10 | 10 | 10 | - |
| 20000 | | | 20000 | | | 20000 | | 10000 | | 10000 |
| 10000 | | | 10000 | | | 10000 | | 5000 | | 5000 |
| 7500 | | | 7500 | | | 7500 | | 2500 | | 2500 |
| - | | | - | | | 1500 | | 500 | | - |
| ■ | | | ■ | | | ■ | | ■ | | ■ |
| ■ | | | ■ | | | ■ | | - | | - |
| ■ | | | ■ | | | ■ | | ■ | | ■ |
| | | | | | | | | | | |
| ■ | | | ■ | | | ■ | | ■ | | ■ |
| ■ | | | ■ | | | ■ | | ■ | | - |
| - | | | - | | | - | | - | | - |
| ■ | | | ■ | | | ■ | | ■ | | - |
| ■ | | | ■ | | | ■ | | ■ | | - |
| KEMA,CE,CB | | | KEMA,CE,CB | | | TUV,CE,CB | | TUV,CE,CB | | TUV,CE,CB |
| - | | | - | | | - | | - | | - |
| 150x257x108 | | | 150x257x108 | | | 182x257x110 | | 210x280x119 | | 223x408x149 |
| 198x257x108 | | | 198x257x108 | | | 240x257x110 | | 280x280x119 | | - |

# HDM3/3v/3L/3E Series MCCB

| HDM3&HDM3v Technical Parameters-@ 50° Products | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Frame size** | | **HDM3-100** | | | **HDM3-160** | | | **HDM3-250** | | |
| Rated insulation Voltage Ui(V) | | 800 | | | 800 | | | 800 | | |
| Rated impulse withstand voltage Uimp(kV) | | 8 | | | 8 | | | 8 | | |
| Rated working voltage Ue (V) | | 400/415 | | | 400/415 | | | 400/415 | | |
| Rated current In (A) | | 10/16/20/25/32/40/50/63/80/100 | 40/50/63/80/100 | | 100/125/140/160 | | | 180/200/225/250 | | |
| Pole | | 3P/4PB | | | 3P/4PB | | | 3P/4PB | | |
| Use Category | | A | | | A | | | A | | |
| Short-circuit class | | S | F | N | S | F | N | S | F | N |
| Icu @AC400/415V (kA) | | 25 | 35 | 50 | 35 | 50 | 60 | 35 | 50 | 60 |
| Icu @AC500V (kA) | | - | - | - | - | - | - | - | - | - |
| Icu @AC690V (kA) | | - | - | - | - | - | - | - | - | - |
| Ics @AC415V (kA) | | 18 | 26 | 30 | 21 | 30 | 36 | 21 | 30 | 36 |
| Ics @AC500V (kA) | | - | - | - | - | - | - | - | - | - |
| Ics @AC690V (kA) | | - | - | - | - | - | - | - | - | - |
| Mechinal life time (with maintace) | | 40000 | | | 40000 | | | 40000 | | |
| Mechinal life time (without maintace) | | 20000 | | | 20000 | | | 20000 | | |
| Electric life time @AC415V | | 8000 | | | 8000 | | | 8000 | | |
| Electric life time @AC690V | | - | | | - | | | - | | |
| Protection type | Line protection:TM 10In (Below 40A Ii=400A) | ▰ | | | ▰ | | | ▰ | | |
| | Motor protection:M 12 In (Below 40A Ii=400A) | ▰ | | | ▰ | | | ▰ | | |
| Is olate function | | ▰ | | | ▰ | | | ▰ | | |
| **Connection method** | | | | | | | | | | |
| Fix front | | ▰ | ▰ | | ▰ | ▰ | | ▰ | ▰ | |
| Fix rear | | ▰ | ▰ | | ▰ | ▰ | | ▰ | ▰ | |
| Plug-in front | | ▰ | ▰ | | ▰ | ▰ | | ▰ | ▰ | |
| Plug-in rear | | ▰ | ▰ | | ▰ | ▰ | | ▰ | ▰ | |
| Draw-out | | - | - | | - | - | | - | - | |
| **Certificate** | | TUV,CE,CB | | | TUV,CE,CB | | | TUV,CE,CB | | |
| Dimension (WxHxD)   | 3P | 75x130x68 | 92x150x93.3 | | 107x165x76 | 107x165x94 | | 107x165x76 | 107x165x94 | |
| | 4P | 100x130x68 | 122x150x93.3 | | 142x165x67 | 142x165x94 | | 142x165x76 | 142x165x94 | |

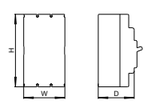


LOW VOLTAGE DISTRIBUTION

# HDM3/3v/3L/3E Series MCCB

| | | | | | | |
|---|---|---|---|---|---|---|
| **HDM3-400** | | | **HDM3v-630b** | | **HDM3v-800** | |
| 800 | | | 800 | | 800 | |
| 8 | | | 8 | | 8 | |
| 400/415 | | | 400/415/500/690 | | 400/415/500/690 | |
| 250/315/400 | | | 400/500/630 | | 630/700/800 | |
| 3P/4PB | | | 3P/4PB | | 3P/4PB | |
| A | | | A | | A | |
| S | F | N | M | N | M | N |
| 35 | 50 | 70 | 50 | 75 | 50 | 75 |
| - | - | - | 10 | 10 | 10 | 10 |
| - | - | - | 10 | 10 | 10 | 10 |
| 21 | 30 | 39 | 50 | 50 | 50 | 50 |
| - | - | - | 10 | 10 | 10 | 10 |
| - | - | - | 10 | 10 | 10 | 10 |
| 20000 | | | 20000 | | 10000 | |
| 10000 | | | 10000 | | 5000 | |
| 7500 | | | 7500 | | 2500 | |
| - | | | 1500 | | 500 | |
| ▰ | | | ▰ | | ▰ | |
| ▰ | | | ▰ | | - | |
| ▰ | | | ▰ | | ▰ | |
| | | | | | | |
| ▰ | | | ▰ | | ▰ | |
| ▰ | | | ▰ | | ▰ | |
| - | | | - | | - | |
| ▰ | | | ▰ | | ▰ | |
| ▰ | | | ▰ | | ▰ | |
| TUV,CE,CB | | | TUV,CE,CB | | TUV,CE,CB | |
| 150x257x108 | | | 182x257x110 | | 210x280x119 | |
| 198x257x108 | | | 240x257x110 | | 280x280x119 | |

# HDM3/3v/3L/3E Series MCCB

| HDM3E Technical Parameters-@ 40° /50 Products | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Frame size** | | **HDM3E-125** | | | | **HDM3E-250** | **HDM3E-400** | |
| Rated insulation Voltage Ui(V) | | 800（1000）[1] | | | | 800（1000）[1] | 800（1000）[1] | |
| Rated impulse withstand voltage Uimp(kV) | | 8 | | | | 8 | 8 | |
| Rated working voltage Ue (V) | | 400/415 | | | | 400/415 | 400/415 | |
| Pole | | 3P/4PC | | | | 3P/4PC | 3P/4PC | |
| Use Category | | A | | | | A | B | |
| Rated frequency(Hz) | | 50 | | | | 50 | 50 | |
| Rated current In(A) | | 32 | 63 | 100 | 125 | 160,250 | 400 | |
| Short-circuit class | | M | | | | M | M | |
| Icu (kA) | | 50 | | | | 50 | 50 | |
| Ics (kA) | | 50 | | | | 50 | 50 | |
| Icw(kA)AC | | 0.5(1S) | 1(1S) | 2.5(1S) | 2.5(1S) | 3(1S) | 5(1S) | |
| Mechinal life time (with maintace) | | 40000 | | | | 40000 | 20000 | |
| Mechinal life time (without maintace) | | 20000 | | | | 20000 | 10000 | |
| Electric life time | | 8000 | | | | 8000 | 7500 | |
| Isolate function | | ■ | | | | ■ | ■ | |
| **Connection method** | | | | | | | | |
| Fix front | | ■ | | | | ■ | ■ | |
| Fix rear | | ■ | | | | ■ | ■ | |
| Plug-in front | | ■ | | | | ■ | - | |
| Plug-in rear | | ■ | | | | ■ | ■ | |
| Draw-out | | - | | | | - | ■ | |
| **Certificate** | | TUV,CE,CB | | | | TUV,CE,CB | TUV,CE,CB | |
| Dimension (WxHxD)  | 3P | 107x165x94 | | | | 107x165x94 | 150x257x108 | |
| | 4P | 142x165x94 | | | | 142x165x94 | 198x257x108 | |

1）：Will upgrade soon



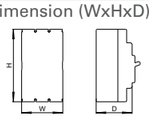


# HDM3/3v/3L/3E Series MCCB

| HDM3E-630 | HDM3E-800 | HDM3E-1600 |
|---|---|---|
| 800（1000）[1] | 1000 | 1000 |
| 8 | 8 | 8 |
| 400/415 | 400/415/500/690 | 400/415 |
| 3P/4PC | 3P/4PC | 3P/4PC |
| B | B | B |
| 50 | 50 | 50 |
| 630 | 800 | 1000/1250/1600 |
| M | M | M |
| 50 | 50 | 50 |
| 50 | 50 | 50 |
| 8(1S) | 10(1S) | 40(1S) |
| 20000 | 10000 | 25000 |
| 10000 | 5000 | 12500 |
| 7500 | 2500 | 6000 |
| ■ | ■ | ■ |
| ■ | ■ | ■ |
| ■ | ■ | - |
| - | - | - |
| ■ | ■ | - |
| ■ | ■ | - |
| TUV,CE,CB | TUV,CE,CB | TUV,CE,CB |
| 150x257x108 | 210x280x119 | 210x327x190 |
| 198x257x108 | 280x280x119 | 280x327x190 |

# HDM3/3v/3L/3E Series MCCB

## HDM3L Technical Parameters-@40° Products

| Earth leakage MCCB | | HDM3L-125 | HDM3L-160 | HDM3L-250 | HDM3L-400 | HDM3L-630 |
|---|---|---|---|---|---|---|
| Rated voltage Ue(V) | | 400/415 | | | | |
| Rated insulation voltage Ui(V) | | 800 | 800 | 800 | 800 | 800 |
| Rated impulse withstand voltage Uimp(kV) | | 8 | 8 | 8 | 8 | 8 |
| Rated frequency(Hz) | | 50/60 | | | | |
| Rated current In(A) | | 16-125 | 100-160 | 160-250 | 200-400 | 400-630 |
| Number of poles | | 3/4 | | | | |
| Use category | | A | | | | |
| Breaking capacity | Breaking class | F | F | F | F | F |
| | Icu(kA) 400/415V AC | 50 | 50 | 50 | 70 | 70 |
| | Ics(kA) 400/415V AC | 30 | 30 | 30 | 42 | 40 |
| | Icw(kA) 400/415V AC | 25% Icu | | | | |
| Mechanical life | | 20000 | 20000 | 20000 | 10000 | 10000 |
| Electrical life | AC 400/415V | 8000 | 8000 | 8000 | 7500 | 7500 |
| Power distribution protection | Electrinic trip unit | ■ | ■ | ■ | ■ | ■ |
| Isolation function | | ■ | ■ | ■ | ■ | ■ |
| Leakage protection | | | | | | |
| Rated residual operating current IΔn mA (three rating adjustable) | Non-delay type | 30, 100, 300 | 30, 100, 300 | 30, 100, 300 | 100, 300, 500 | 100, 300, 500 |
| | | 100, 300, 500 | 100, 300, 500 | 100, 300, 500 | 300, 500, 1000 | 300, 500, 1000 |
| | Delay type | 100, 300, 500 | 100, 300, 500 | 100, 300, 500 | 100, 300, 500 | 100, 300, 500 |
| | | | | | 300, 500,1000 | 300, 500, 1000 |
| Rated residual non-tripping current IΔno (mA) | | 50% IΔn | | | | |
| Non-delay type: breaking time (s) | | ≤ 0.2 | | | | |
| Fixed delay: 2IΔn limit non-actuating time (s) | | 0.1/0.2/0.3/0.4/0.5/1 | 0.1/0.2/0.3/0.4/0.5/1 | 0.1/0.2/0.3/0.4/0.5/1 | 0.1/0.2/0.3/0.4/0.5/1 | - |
| Delay adjustable type: 2IΔn limit non-actuating time (s) | | 0.1/0.2/0.3 | 0.1/0.2/0.3 | 0.1/0.2/0.3 | 0.1/0.2/0.3 | 0.1/0.3/0.5 |
| | | 0.4/0.5/1 | 0.4/0.5/1 | 0.4/0.5/1 | 0.4/0.5/1 | - |
| Certification | | CE, CB | CE, CB | CE, CB | CE, CB | CE, CB |
| Dimension (WxHxD)  | 3P | 92x150x93.3 | 107x165x94 | 107x165x94 | 150x257x108 | 210x280x111 |
| | 4P | 122x150x93.3 | 142x165x94 | 142x165x94 | 198x257x108 | 280x280x111 |

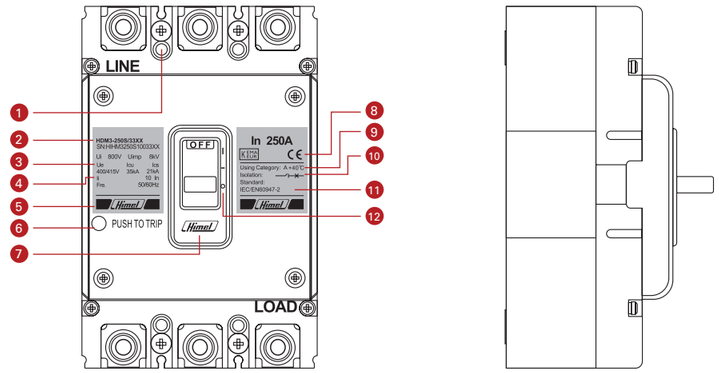




# HDM3/3v/3L/3E Series MCCB

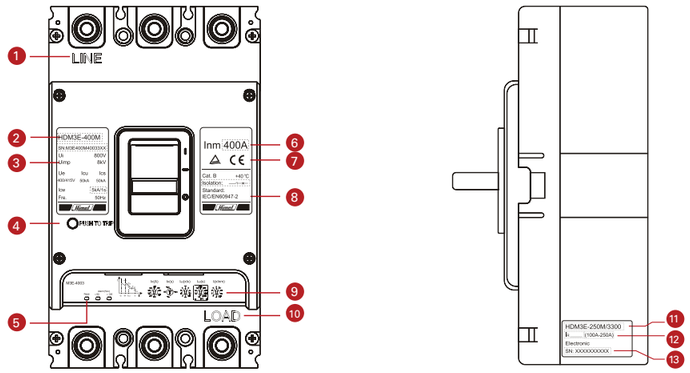
### Front Overview

**HDM3 100-1600**




| | | | | | |
|---|---|---|---|---|---|
| 1 | Mounting hole | 6 | Test button | 11 | Conplied standard |
| 2 | Product name | 7 | Brand trademark | 12 | Closing, tripping and opening |
| 3 | Technical parameters | 8 | Certification mark | | |
| 4 | Breaking capacity | 9 | Use category | | |
| 5 | Brand name | 10 | Breaker with isolating mark | | |

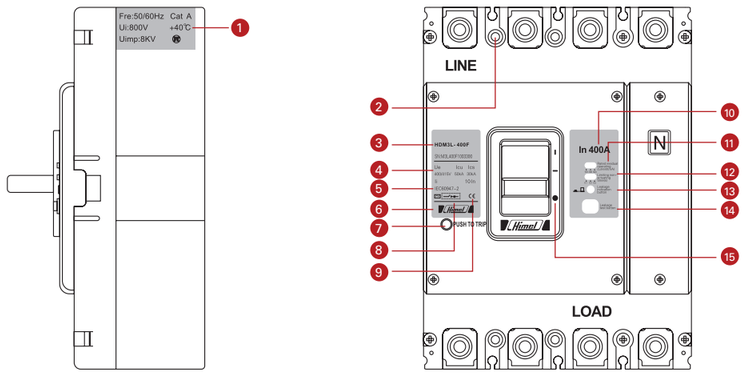
**HDM3E 125-800**




| | | | | | |
|---|---|---|---|---|---|
| 1 | Line side | 6 | Frame Current Inm | 11 | Product type |
| 2 | Product type | 7 | Certificate Mark | 12 | Overload delay time setting current |
| 3 | Technical Parameters | 8 | Standard | 13 | Reference code |
| 4 | Tripping button | 9 | Parameter adjust knob | | |
| 5 | Alarm light | 10 | Load side | | |

# HDM3/3v/3L/3E Series MCCB

### HDM3L 125-630



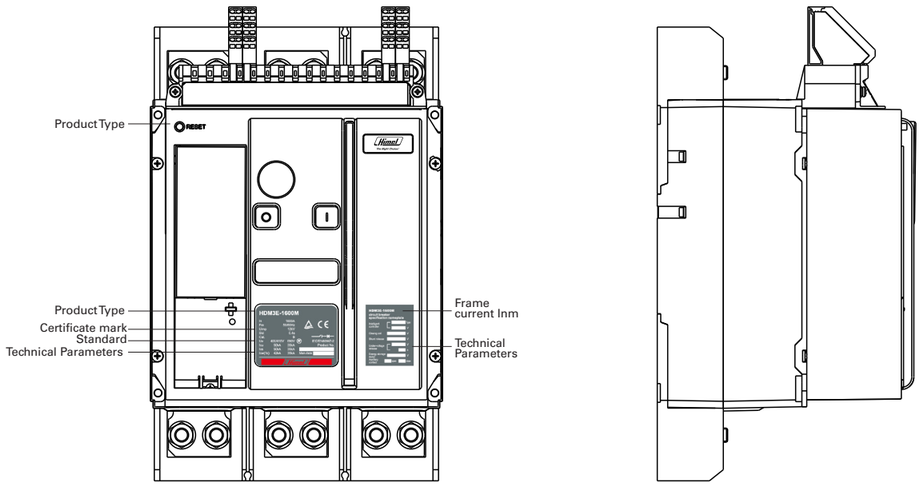

| | | | | | |
|---|---|---|---|---|---|
| 1 | Technical parameters | 6 | Manufacturer trademark | 11 | Rated residual operating current |
| 2 | Mounting hole | 7 | Trip button | 12 | Limiting non-actuating time |
| 3 | Product model | 8 | Breaker with isolating mark | 13 | Leakage indication button |
| 4 | Breaking capacity | 9 | Certification mark | 14 | Leakage test button |
| 5 | Conformance standard | 10 | Rated current | 15 | Closing, tripping and opening |

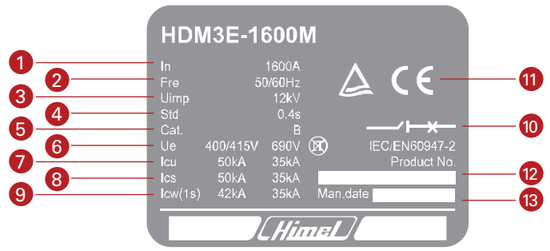


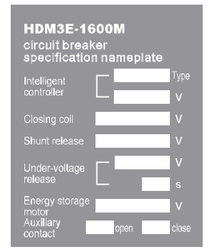


# HDM3/3v/3L/3E Series MCCB

### HDM3E 1600



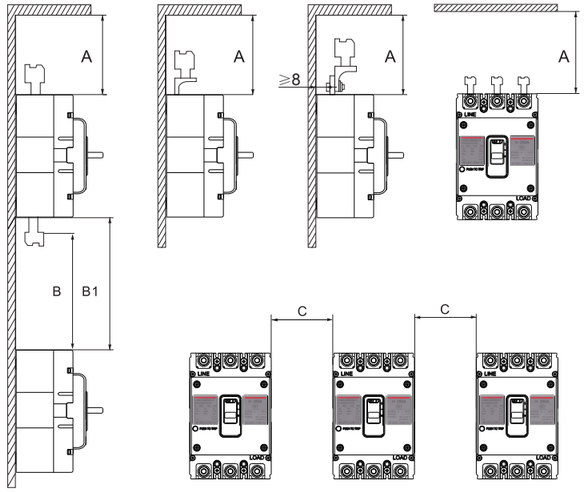




| | | | | | |
|---|---|---|---|---|---|
| 1 | Rated current | 6 | Rated voltage | 11 | Certification and standard |
| 2 | Rated frequency | 7 | Breaking capacity of limit short circuit | 12 | Ex-factory code |
| 3 | Rated impulse withstand voltage | 8 | Breaking capacity of operation short circuit | 13 | Production date |
| 4 | Maximum short circuit delay time | 9 | Rated short time withstand current | | |
| 5 | Application category | 10 | Breaker with isolating mark | | |

# HDM3/3v/3L/3E Series MCCB

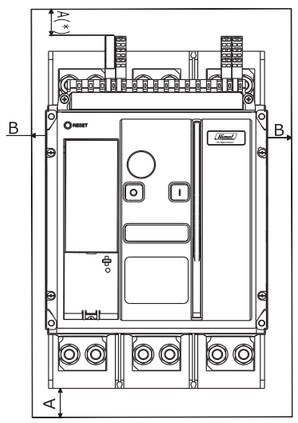
## Safety Distance

**HDM3/3L/HDM3E-125~800**




| Product type | A(mm) | B(mm) | B1(mm) | C(mm) |
|---|---|---|---|---|
| HDM3-100/125/160/250<br>HDM3v-125/250 2P<br>HDM3E-125/250<br>HDM3L-125/160/250 | 60 | 60 | Bare cable length+B | 30 |
| HDM3-400/630<br>HDM3v-630b/800<br>HDM3E-400/630/800<br>HDM3L-400/630 | 110 | 110 | | 70 |
| HDM3-1600 | 110 | 55 | | 10 |

**HDM3E-1600**




| | Insulation part | Metal part | Live part |
|---|---|---|---|
| A | 0 | 120 | 180 |
| B | 0 | 10 | 60 |

Note: X and Y are front plane symmetric axis.

(*) 50mm safety distance for removing arcing cover, 20mm safety distance for removing terminals.

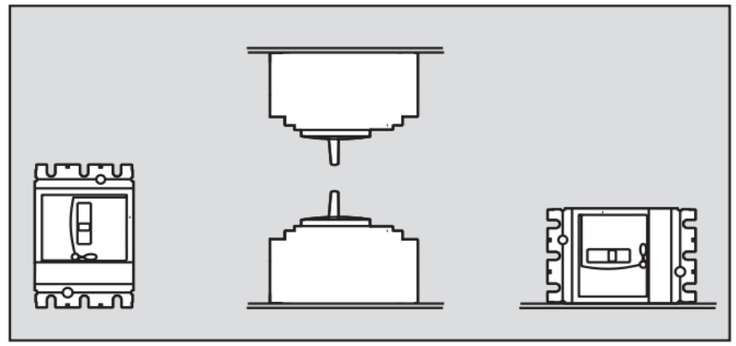
F : Reference point.



LOW VOLTAGE DISTRIBUTION

HDM3/3v/3L/3E Series MCCB

## Installation Type



## Deratig of Temperature

| Product type | Ambient temperature (40℃ product) | | | | |
|---|---|---|---|---|---|
| | 40 | 45 | 50 | 55 | 60 |
| HDM3-100L/S/T/N<br>HDM3v-125 2P | 1 | 0.96 | 0.89 | 0.83 | 0.75 |
| HDM3-160/250<br>HDM3L-160/250<br>HDM3v-250 2P | 1 | 0.92 | 0.85 | 0.79 | 0.71 |
| HDM3-400/630<br>HDM3L-400<br>HDM3v-630b | 1 | 0.94 | 0.87 | 0.81 | 0.73 |
| HDM3v-800<br>HDM3L-630 | 1 | 0.95 | 0.88 | 0.82 | 0.74 |

| Product type | Ambient temperature | | | | |
|---|---|---|---|---|---|
| | 40 | 45 | 50 | 55 | 70 |
| HDM3E-125 32A | 1 | 1 | 1 | Inm=25A | Inm=16A |
| HDM3E-125 63A | 1 | 1 | 1 | Inm=50A | Inm=40A |
| HDM3E-125 100A | 1 | 1 | 1 | Inm=80A | Inm=63A |
| HDM3E-125 125A | 1 | 1 | 1 | Inm=80A | Inm=63A |
| HDM3E-250 160A | 1 | 1 | 1 | Inm=140A | Inm=125A |
| HDM3E-250 | 1 | 1 | 1 | Inm=200A | Inm=160A |
| HDM3E-400 | 1 | 1 | 1 | Inm=315A | Inm=250A |
| HDM3E-630 | 1 | 1 | 1 | Inm=500A | Inm=400A |
| HDM3E-800 | 1 | 1 | 1 | Inm=560A | Inm=500A |
| HDM3E-1600 | 1 | 1 | Inm=1500A | Inm=1250A | Inm=1000A |

Note: Max $I_R$ is smaller as Inm

# HDM3/3v/3L/3E Series MCCB

## Derating of Altitude

| Altitude | 2000m | 3000m | 4000m | 5000m |
|---|---|---|---|---|
| Insulation voltage Ui (V) | 800 | 728 | 664 | 616 |
| Uimp (kV) | 8 | 7 | 6.5 | 6 |
| Power frequency withstand voltage (V) | 3000 | 2500 | 2100 | 1800 |
| Rated heat value (A) | In | 0.94In | 0.88In | 0.85In |

## Power Consumption for Three Poles

| Product type | Rated current (A) | Front connection (W) | Rear connection (W) | Plug-in connection (W) | Withdrawable connection (W) |
|---|---|---|---|---|---|
| HDM3-100L/S | 100 | 26 | 29 | 29 | - |
| HDM3-100T/N/F | 100 | 40 | 50 | 50 | - |
| HDM3-160 | 160 | 60 | 87 | 87 | - |
| HDM3-250 | 250 | 63 | 90 | 90 | - |
| HDM3-400 | 400 | 115 | 120 | 125 | 128 |
| HDM3-630<br>HDM3v-630b | 630 | 180 | 190 | 200 | 205 |
| HDM3v-800 | 800 | 200 | 230 | 290 | 300 |

| Product type | Rated current (A) | Front connection (W) | Rear connection (W) | Plug-in connection (W) | Withdrawable connection (W) |
|---|---|---|---|---|---|
| HDM3E-125 | 125 | 60 | 87 | 87 | - |
| HDM3E-250 | 250 | 63 | 90 | 90 | - |
| HDM3E-400 | 400 | 115 | 120 | 125 | 128 |
| HDM3E-630 | 630 | 180 | 190 | 200 | 250 |
| HDM3E-800 | 800 | 200 | 230 | 290 | 300 |
| HDM3E-1600 | 1600 | 250 | - | - | - |



LOW VOLTAGE DISTRIBUTION

# HDM3/3v/3L/3E Series MCCB

## Trip Units

### Thermal and magnetic trip unit HDM3&HDM3v 100-1600/HDM3L 125-630

**Protection**

The circuit breaker equipped with TM thermomagnetic release is mainly for protection of the cable, which is on the power distribution system for transformer power supply.

**Overload protection: thermal protection $I_R$ (Fixed)**

The overload protection function provides inverse time limit curve on the basis of bimetal. If the limit is exceeded,the deformation of the bimetal can lead in the tripping of the circuit breaker operating mechanism.

| Test No. | I/In | Conventional time | Breaker status | Initial status |
|---|---|---|---|---|
| 1 | 1.05 | ＞1h(In≤63A)<br>＞2h(In＞63A) | Non-tripping | Cold status |
| 2 | 1.3 | ≤1h(In≤63A)<br>≤2h(In＞63A) | Tripping | Immediately after Test No.1 |

**Short circuit protection: magnetic protection Ii(Fixed)**

Magnetic protection achieves short circuit protection through a magnetic trip device. The circuit breaker will trip instantaneously. Ii set at 10In (Below 40A Ii=400A).

| Test No. | I | Breaker status | Connventional time |
|---|---|---|---|
| 1 | 80%Ii | Non-tripping | ≥0.2s |
| 2 | 120%Ii | Tripping | ≤0.2s |

**Magnetic**

The circuit breaker equipped with M magnetic release is mainly for protection of the motor.

**Short circuit protection: magnetic protection Ii(Fixed)**

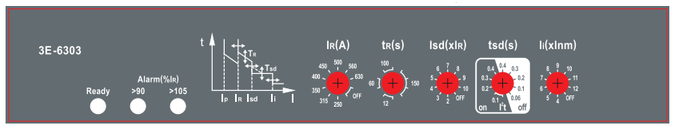
Magnetic protection achieves short circuit protection through a magnetic trip device. The circuit breaker will trip instantaneously. Ii set at 12In.(Below 40A Ii=400A).

| Test No. | I | Breaker status | Connventional time |
|---|---|---|---|
| 1 | 80%Ii | Non-tripping | ≥0.2s |
| 2 | 120%Ii | Tripping | ≤0.2s |

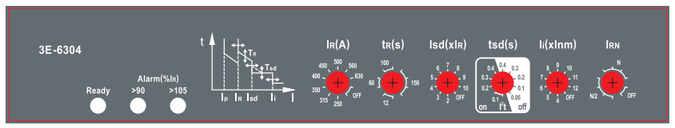
# HDM3/3v/3L/3E Series MCCB

## Electronic trip unit HDM3E-125~800

3P controller




4P controller




Controller Description

$I_R$ :Overload long delay setting current
Isd :Short-circuit short delay setting current
Ii :Short-circuit instantaneous setting current
Ready :Run light
$>90\%I_R$ :pre-alarm light
LSI three section protection curve

$t_R$ :Overload long delay setting time
tsd :Short-circuit short delay setting time $I_{RN}$
:Short-circuit short delay setting time Alarm
:Alarm light
$>105\%I_R$ :Overload alarm light

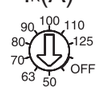
### 1) Overload long delay setting current $I_R$

Adjust I R knob, can select the different current value of HDM3E, to satisfy the rated operating current requirement of different electrical wiring.

Following sketch is the adjust knob: $I_R$

| Product Type | Overload long delay current protection feature setting value $I_R$(A) | Remark |
|---|---|---|
| HDM3E-125 32A | 14,16,18,20,25,28,30,32 | OFF means close overload long delay protection |
| HDM3E-125 63A | 32,36,40,45,50,56,60,63 | OFF means close overload long delay protection |
| HDM3E-125 100A | 40,45,50,63,70,80,90,100 | OFF means close overload long delay protection |
| HDM3E-125 125A | 50,63,70,80,90,100,110,125 | OFF means close overload long delay protection |
| HDM3E-250 160A | 80,90,100,110,125,140,150,160 | OFF means close overload long delay protection |
| HDM3E-250 250A | 100,125,140,160,180,200,225,250 | OFF means close overload long delay protection |
| HDM3E-400 400A | 160.200.225,250.300.315,350,400 | OFF means close overload long delay protection |
| HDM3E-630 630A | 250.315,350,400,450,500,560,630 | OFF means close overload long delay protection |
| HDM3E-800 800A | 350,400,450,500,560,630,700,800 | OFF means close overload long delay protection |

$I_R$(A)




HDM3E-125





# HDM3/3v/3L/3E Series MCCB

### 2 ) Overload long delay setting time $t_R$

$t_R$(s)


HDM3E-125/250

$t_R$(s)


HDM3E-400/630/800

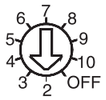
$t_R$ Action time @$2I_R$
The following table is action value corresponding for different overload long delay time when the fault current is $1.5I_R$, $2I_R$, $6I_R$

| Actual Current | Action time to different knob $t_R$(s), accuracy ±10%, $t = (2I_R / I)^2 \times t_R$ | | | | |
|---|---|---|---|---|---|
| | 12 | 60 | 80 | 100 | 150 |
| $1.5I_R$ | 21.3 | 106.7 | 142.2 | 177.8 | 266.7 |
| $2I_R$ | 12 | 60 | 80 | 100 | 150 |
| $6I_R$ | 1.33 | 6.67 | 8.89 | 11.11 | 16.67 |

As example of HDM3E-400 product, how to set the overload long delay setting current and time. If select Ir 300, Tr is 60.
When overlaod current is 1.5Ir(450A), the range of overload action time is 106.7±10.67s. When overlaod current is 2Ir(600A), the range of oVerload action time is 60±6s.
When overlaod current is 6Ir(1800A), the range of oVerload action time is 6.67±0.667s.
It is the same theroy for the other section knob value.

### 3) Short-circuit short delay setting current $I_{sd}$

$I_{sd}(\times I_R)$

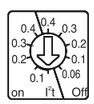



Selection knob of short-circuit short delay setting current Isd:2、3、4、5、6、7、8、9、10、OFF

Setting current Isdvaule is the tap position of xl R(can adjust by overload tripping current setting value) OFF means close the acion option of short-circuit short delay time .

### 4) Short-circuit short delay setting time $t_{sd}$

$t_{sd}$(s)



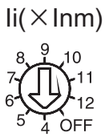

Short time delay protection is used to ensure the selectivity coordination with the downstream circuit breakers. There are $I^2t$ ON (inverse time limit) and I2t OFF (fixed time limit) two type. The following table is the value of short delay tripping
time tsd: $t=(8Isd/I)^2 \times t_{sd}$

tsd action time@8Isd

| | | | | | | |
|---|---|---|---|---|---|---|
| $I^2t$ ON @8Isd | Setting time tsd(s) | - | 0.1 | 0.2 | 0.3 | 0.4 |
| | $I > 8I_R$ delay time(s) | - | 0.1 | 0.2 | 0.3 | 0.4 |
| $I^2t$ OFF | Setting time tsd(s) | 0.06 | 0.1 | 0.2 | 0.3 | 0.4 |
| | Return time(ms) | 20 | 80 | 140 | 230 | 350 |
| | Max break time(ms) | 100 | 140 | 220 | 320 | 500 |

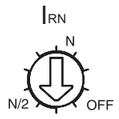
As example of HDM3E-250, how can do set inverse time limit settig time of short-circuit short delay.
If IR is selected 200, Isd is selected on $2xI_R$ positon, tsd is selected $I^2t$ ON,tsd is selected on 0.2 position When short-circuit current is $2xI_R$ (400A), the short-circuit short time delay action time is 3.2s.
Note: when $I_R$ =OFF,short-circuit short delay action current Isd is matching to Inm.

**5 ) Short-circuit Instantaneous setting current Ii (×Inm)**




| | | |
|---|---|---|
| Short-circuit Instantaneous setting current Ii (×Inm) | HDM3E-125/250 /400/630/800 | (4,5,6,7,8,9,10,11,12,OFF)×Inm |

**6 ) Neutral phase setting protection $I_{RN}$(×$I_R$/Inm)**




Setting current IRN value selected knob is ×I R /Inm. Neutral phase protection is special for 4 poles circuit breakers.There are three type:

- OFF:Close neutral phase protection function, used for power distribution system without neutral protection situation
- N/2:Used for neutral phase wiring conductor cross-section equal to half of phase line of power distribution system long time delay, short time delay are also equal to the 1/2 of setting value of phase line protection in this status
- N:Used for neutral phase wiring conductor cross-section equal to phase line of power distribution system long time delay, short time delay instantaneous setting value are also equal to setting value of phase line protection in this status.

Note: When $I_R$ is OFF, controller will automatically use the basic reference(Inm) current as the neutral phase protection

**7 ) Cotroller working status indicate**

Following table is status of Run indicate light(Ready), Alarm indicate light(Alarm):

| Run status | Ready | Alarm | | Remark |
|---|---|---|---|---|
| | Green | Yellow | Red | |
| Normal | Blink | Extinguish | Extinguish | $I<0.9I_R$ |
| Pre-alarm | Blink | Blink | Extinguish | $0.9I_R \le I \le I_R$ |
| Tripping | Extinguish | Extinguish | Extinguish | $1.05I_R<I$ |

Note:

1, I is current of main circuit,$I_R$ is overload long time delay setting current value.

2, When yellow light blink, that means intelligent controller had worker on overload long time delay, setting parameters on the controller board is unavailiable in this process.





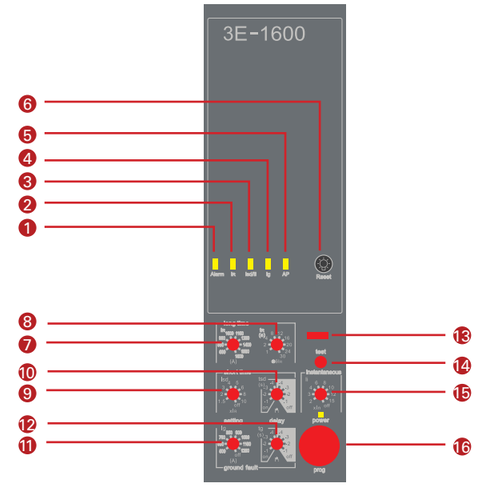
## Electronic trip unit HDM3E-1600

**Controller Function and Characteristics**

**3E-1600( Basic type )**

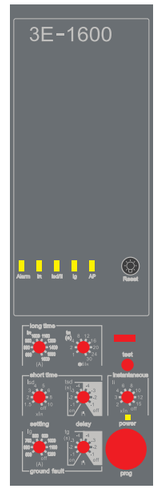
**Indicate and button description**

1. Alarm indicate light
2. Long time delay tripping indicate
3. Short time delay or Instantaneous tripping indicate
4. Earthing tripping indicate
5. High level protection
6. Reset button
7. Long time delay current setting $I_R$
8. Long time delay tripping delay $t_R$
9. Short time delay Isd
10. Short time delay tripping delay tsd
11. Earthing fault triiping Ig
12. Earthing fault triiping delay tg
13. Lock position
14. Testing button
15. Instantaneous tripping current
16. Testing connection port




**Electronic unit HDM3E-1600**

| | |
|---|---|
| Protection Function | Long-time delay protection $I_R$ |
| | Short-time delay protection Isd |
| | Instanstaneous protection Ii |
| | Earthing protection Ig |
| Miscellaneous Function | Pre-alarm |
| | Self-diagnosis function |




**3E-1600**

# HDM3/3v/3L/3E Series MCCB

**Intelligent cotroller  protection characteristics**

Intelligent controller protection characteristics have inverse time limit and fixed time limit. When fault current exceed the setting value of inverse time limit, controller will work on the delay time protection according to fixed time limit setting.

Inverse time limit curve comform to characteristics curve $I^2t$

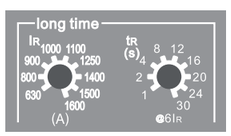
**1) Overload long time dealy protection characteristics Ir**

Overload long time delay protection action threshold vaule

< 1.05 $I_R$;> 2h inaction

≥ 1.2 $I_R$ ;action delay

$I_R$ current setting range:630A,800A,900A,1000A,1100A,1250A,1400A,1500A,1600A




| Inverse time limit action characteristics | | $I^2t$: $t=(6/N)^2 * t_R$ | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Setting current | Action time s | | | | | | | | |
| 1.5 $I_R$ | 16s | 32s | 64s | 128s | 192s | 256s | 320s | 384s | 480s |
| 2 $I_R$ | 9s | 18s | 36s | 72s | 108s | 144s | 180s | 216s | 270s |
| 6 $I_R$ | 1s | 2s | 4s | 8s | 12s | 16s | 20s | 24s | 30s |

Notes: N---- Fault current divide by setting current $I/I_R$

t------Fault action delay time

$t_R$ ----Long time delay setting value

Action time permissible error±10%

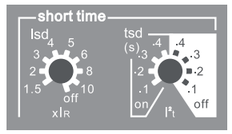
**2) Short-circuit short time dealy protection characteristics Isd**

Short-circuit short time delay protection action threshold vaule

< 0.9 Isd inaction

≥ 1.1 Isd;action delay

Isd  current setting range:1.5 $I_R$ ,2 $I_R$ ,3 $I_R$ ,4 $I_R$ ,5 $I_R$ ,6 $I_R$ ,8 $I_R$ ,10 $I_R$ ,OFF




| Setting current | Action time | | | | | |
|---|---|---|---|---|---|---|
| Isd<I≤8$I_R$ | Inverse time limit | Action character | $I^2t=(8Isd/t)^2$ tsd | | | |
| | | Delay time s | 0.1,0.2,0.3,0.4 | | | |
| I≥1.1Isd | Fixed time limit, returned time is minimum value | Setting time s | 0.1 | 0.2 | 0.3 | 0.4 |
| | | Min s | 0.08 | 0.14 | 0.23 | 0.35 |
| | | Max s | 0.14 | 0.2 | 0.32 | 0.5 |

Notes:  Isd ---- Short time delay current setting value

I ---- Fault current value

$I_R$ ---- Long deay time current setting value

t ---- Fault action deay time

tsd ---- Short time delay inverse time limit setting value

Action time permissible error ± 20%

(The off of time means I2 t is inverse time limit closed, this state is fixed time limit; use current konb is off, that means short time delay protection function is closed.)





# HDM3/3v/3L/3E Series MCCB

**3) Instantaneous protection characteristics Ii**

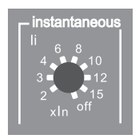
Short-circuit instantaneous protection action threshold vaule

< 0.85 Ii inaction

> 1.15 Ii action

Instantaneous action current setting value 2In, 3In, 4In, 6In, 8In, 10In, 12In, 15In, OFF

Note: Action time permissible error ≤ 50ms.




**4) Earthing fault protection action characteristics Ig**

Earthing fault protection action threshold value

< 0.9 Ig;inaction

≥ 1. 1 Ig;action delay

Ig current setting range:500A, 600A, 700A, 800A, 900A, 1000A, 1100A, 1200A, OFF

| tg(s) | Inverse time limit | Action Charater | | | | |
|---|---|---|---|---|---|---|
| | | $t=\frac{(I_G)^2}{I^2}\times tg$ | | | | |
| | Fixed time limit, returned time is minimum value | Settingtime (s) | 0.1 | 0.2 | 0.3 | 0.4 |
| | | Settingtime (s) | 0.1 | 0.2 | 0.3 | 0.4 |
| | | Min (s) | 0.08 | 0.14 | 0.23 | 0.35 |
| | | Max (s) | 0.14 | 0.2 | 0.32 | 0.5 |

Notes:  $I_g$ Earthing protection setting value, $I_g$ =1200A

I Fault current value

T Fault action delay time

tg Earthing inverse time limit setting value

Inverse time limit action permissiable error ± 20%

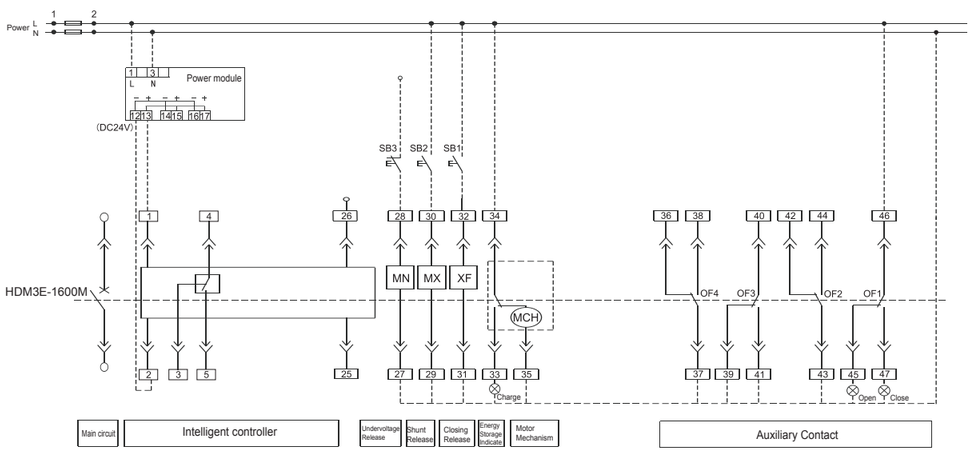
(The off means is inverse time limit closed, this state is fixed time limit. Use current konb is off, that means earthing protection function is closed.)

**5) Intelligent controller setting value**

| | Long time delay | | Short time delay | | Instantaneous | Earthing fault | | Thermal momory |
|---|---|---|---|---|---|---|---|---|
| Tripping curve $I^2t$ | $I_R$ | $t_R$ | Isd | ts | Ii | Ig | tg | |
| | 1600A | 30s | 6In | 0.2s | 10In | 1100A | 0.4s | 20min |

# HDM3/3v/3L/3E Series MCCB

## Controller Function and Characteristics




**Controller Introdction:**

Power: Power supply

1#,2# is auxiliary power DC24V , 1# is connect to positive terminal, and 2# is connect to negative terminal.

SWT: Fault tripping contact outlet(alarm contact)

3#,4#,5# are a set of transfer contact, and 4# is the common terminal, AC 400V,5A.

Note 1: 27#, 28# is under-voltage release terminal, connect from main circuit.

Note 2: controller must connect power supply, when voltage power is AC220~400V, use iAPU334 power module; when power is DC220/110V, use iAPU332D power module.

Note 3: HDM3E-1600M standard equpped with 4 NO 4 NC close contact.

Note 4: MN, MX, XF,MCH are also optional accessories.

Note 5: Terminal 35# can not only be connected to power supply directly, achieve pre-storage energy automatically, but also can cor to the power supply by tandem connection with normal open button (achieve pre-storage energy manually). The dotted line need connect by user.

**Button by users:**

SB1—closing button

SB2—opening button

SB3—emergency cut-off button

**Components:**

MN— Under-voltage release

MX— Shunt release

XF— Closing release

MCH— Motor mechanism

OF1~OF4——Auxiliary contacts

- Function introduction
- In direct current, supply auxiliary power supply for intelligent controller



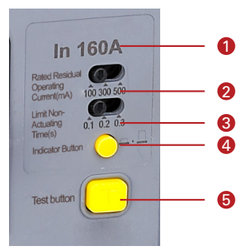
LOW VOLTAGE DISTRIBUTION

# HDM3/3v/3L/3E Series MCCB

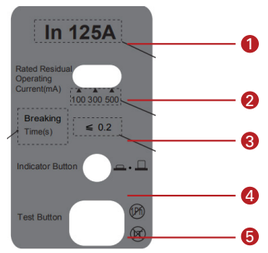
**Earth leakage protection**

Residual current circuit breakers are used to provide protection against leakage current which may cause insulation failure , electric shock to equipment and human body. HDM3L ELCB also can provide protection against over load & short circuit.

1. Rated Current In
2. Rated residual operating current I △ n
3. IBreaking time
4. Indicator button
5. Test button




Time-delayed type
(Time adjustable)




Non-time-delayed type

Rated residual operating current I △ n:
Adjustable I △ n can select different value to provide protection against leakage current in different condition.

| Product type | Time-delayed type | Non-time-delayed type |
|---|---|---|
| | Rated residual operating current I △ n/mA | |
| HDM3L-125 | 100/300/500 | 30/100/300；100/300/500 |
| HDM3L-160 | 100/300/500 | 30/100/300；100/300/500 |
| HDM3L-250 | 100/300/500 | 30/100/300；100/300/500 |
| HDM3L-400 | 100/300/500；300/500/1000 | 100/300/500;300/500/1000 |
| HDM3L-630 | 100/300/500；300/500/1000 | 100/300/500;300/500/1000 |

**Limiting non-actuating time**

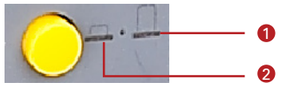
Maximum delay during which a residual current higher than the rated residual non-operating current can be applied to the ELCB without bringing it actually to operate.The limiting non-actuating time is defined at 2 IΔn.

| Product type | Time-delayed type |
|---|---|
| | Limiting non-actuating time(s) @2 IΔn |
| HDM3L-125 | 0.1/0.2/0.3; 0.4/0.5/1 |
| HDM3L-160 | 0.1/0.2/0.3; 0.4/0.5/1 |
| HDM3L-250 | 0.1/0.2/0.3; 0.4/0.5/1 |
| HDM3L-400 | 0.1/0.2/0.3; 0.4/0.5/1 |
| HDM3L-630 | 0.1/0.3/0.5 |

For Non-time-delayed type ELCB,break time≤0.2S

**Indicator button**

1. Status means that breaker is tripped by leakage current.
2. Status means that if breaker is tripped, it is caused by overload or short circuit




Test button

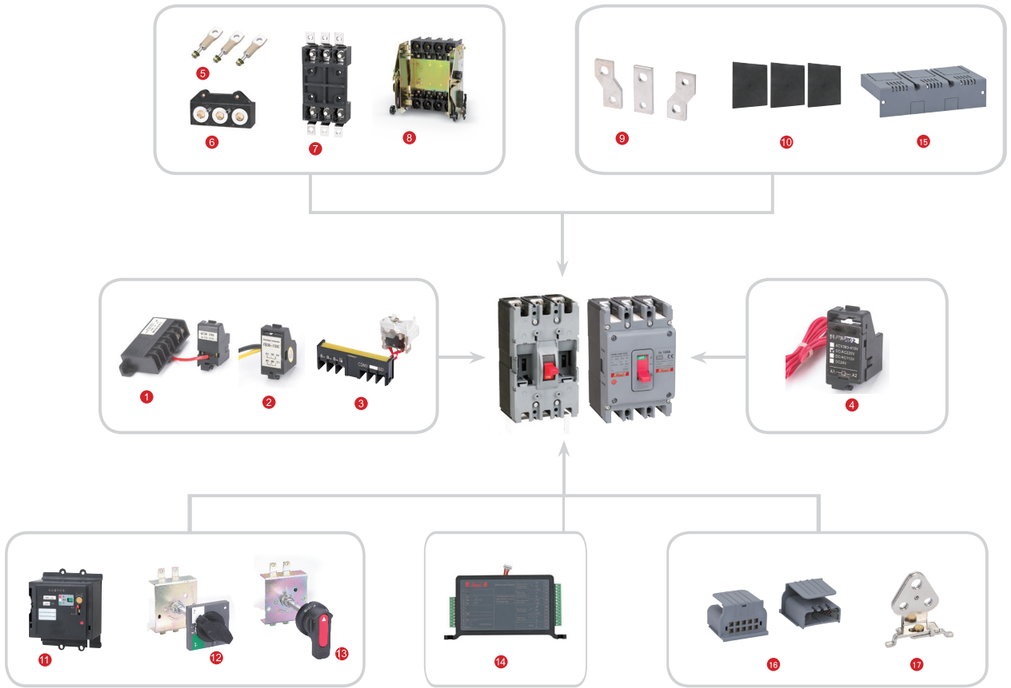
It is used to simulate the passing through the detecting device of a residual current, in order to allow periodic testing of the ability of ELCB to operate.

Attention:

Wiring power input from load side is not permitted.

## Accessories HDM3/HDM3L/HDM3E 125-800

**Overview of Accessories**




| | | | | | |
|---|---|---|---|---|---|
| 1 | Undervoltage release | 6 | Plug-in rear connection | 11 | Motor operation mechanism |
| 2 | Auxiliary contact | 7 | Plug-in front connection | 12 | Square handle operating mechanism |
| 3 | Alarm contact | 8 | Withdrawable connection | 13 | Round handle operating mechanism |
| 4 | Shunt release | 9 | Extension terminal | 14 | Modbus RTU mode |
| 5 | Fixed rear connection | 10 | Interphase barriers | 15 | Terminal cover |
| 16 | Zero arc flash | 17 | Padlock | | |

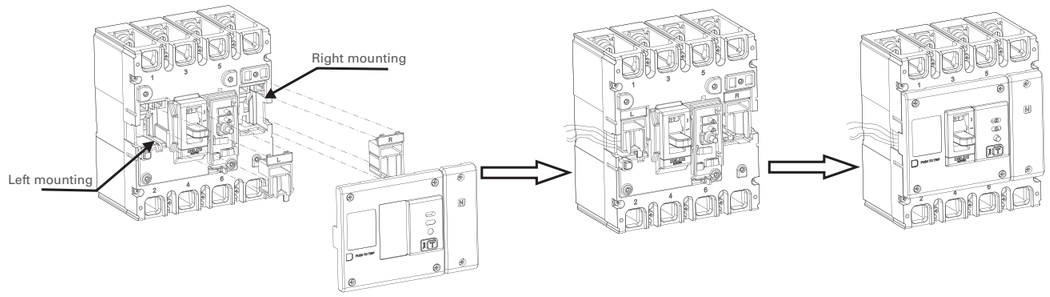


LOW VOLTAGE DISTRIBUTION

HDM3/3v/3L/3E Series MCCB

## Internal Accessories

**Accessories installation**




Take the top cover down, and put accessories into left and right chamber of the middle cover and compress it. and install the topt cover, tighten the screws. An accessory can be installed in the left or right postion,including shunt release,undervoltage release,auxiliary contact,alarm and auxiliary contact.

**Auxiliary contact**

An accessory connected in the auxiliary circuit of the switching device to indicate the circuit breaker status of ON, OFF or TRIP

**Electrical wiring diagram**

| Accessory name | ON | OFF/TRIP |
|---|---|---|
| Auxiliary | F12 F14 F11 | F12 F14 F11 |

| Electrical parameters | | | |
|---|---|---|---|
| **Conventional Thermal Current** | | **3A** | |
| Use category | | AC 15 | DC 13 |
| Working electricity 50Hz | AC 400V | 0.3A | / |
| | DC 220V | / | 0.15A |

**Alarm contact**

An accessory used to indicate the circuit breaker status of ON, OFF or TRIP. When the alarm contact indicates that the circuit breaker is at Trip status, there are the following five possibilities

- Overload or short circuit fault
- Manual test button trip
- Line fault and undervoltage release action
- Residual current fault
- Shunt release action

**Electrical wiring diagram**

| Accessory name | ON | OFF/TRIP |
|---|---|---|
| Alarm | B12 B14 B11 | B12 B14 B12 |

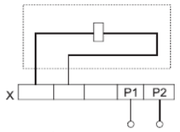
| Electrical parameters | | | |
|---|---|---|---|
| **Conventional Thermal Current** | | **3A** | |
| Use category | | AC 15 | DC 13 |
| Working electricity 50Hz | AC 400V | 0.3A | / |
| | DC 220V | / | 0.15A |

# HDM3/3v/3L/3E Series MCCB

**Undervoltage release**

- The undervoltage release shall reliably trip the circuit breaker at the voltage between 35% and 70% of the rated operational voltage;
- The undervoltage release shall ensure that the circuit breaker can be switched on at the voltage between 85% and 110% of the rated operational voltage;
- The undervoltage release shall prevent the circuit breaker from switching on when voltage is below 35%of the rated operational voltagethe

Electric wiring diagram of undervoltage release Wiring diagram
Note: X- terminal block
Note: In the dashed box,
it is the wiring diagram of accessories in the circuitbreaker.

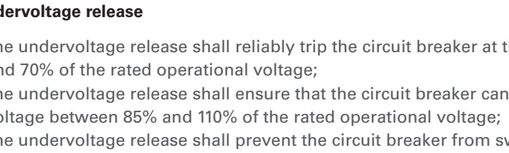



Power input

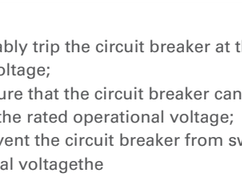
| Product type | Undervoltage release power consumption(W) | |
|---|---|---|
| | AC400V | AC230V |
| HDM3-100L/S<br>HDM3v-125C 2P<br>HDM3v-250S 2P | 4 | 3.1 |
| HDM3-100T/N//F<br>HDM3L-125 | 3.9 | 3.2 |
| HDM3-160/250<br>HDM3L-160/250<br>HDM3E-125/250 | 4.3 | 3.3 |
| HDM3-400<br>HDM3L-400<br>HDM3E-400 | 3.6 | 2.5 |
| HDM3-630<br>HDM3v-630b/800<br>HDM3E-630/800 | 3.4 | 2.5 |
| HDM3L-630 | 2 | 1.6 |
| HDM3-1600 | 1.12 | 1.08 |

**Shunt release**

>The shunt release shall reliably trip the circuit breaker at the voltage between 70% and 110% of the rated control power voltage U
>The circuit breaker shall be reset on the site after tripping through the shunt release.




KA: DC24V intermediate relay with the contact current capacity of 1A




Power input

| Product type | Shunt release power loss(W) | | |
|---|---|---|---|
| | AC400V | AC230V | DC24V |
| HDM3-100L/S<br>HDM3v-125C 2P<br>HDM3v-250S 2P | 91.6 | 76.1 | 91.2 |
| HDM3-100T/N/F<br>HDM3L-125 | 96.8 | 73 | 91.2 |
| HDM3-160/250<br>HDM3L-160/250<br>HDM3E-125/250 | 112 | 68.6 | 85.3 |
| HDM3-400<br>HDM3L-400<br>HDM3E-400 | 67 | 62.3 | 100 |
| HDM3-630<br>HDM3v-630b/800<br>HDM3E-630/800 | 68 | 58.2 | 100 |
| HDM3L-630 | 163 | 153 | 120 |
| HDM3-1600 | 175 | 130 | 80 |





# HDM3/3v/3L/3E Series MCCB

## External accessories

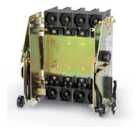
| | Fixed front | Fixed rear | Plug-in front | Plug-in rear | Withdrawable |
|---|---|---|---|---|---|
| HDM3-100 | ■ | ■ | ■ | ■ | / |
| HDM3-160 | ■ | ■ | ■ | ■ | / |
| HDM3v-125C/250S 2P | ■ | / | / | / | / |
| HDM3-250<br>HDM3E-125/250 | ■ | ■ | ■ | ■ | / |
| HDM3-400<br>HDM3E-400 | ■ | ■ | / | ■ | ■ |
| HDM3-630<br>HDM3v-630b<br>HDM3E-630 | ■ | ■ | / | ■ | ■ |
| HDM3v-800<br>HDM3E-800 | ■ | ■ | / | ■ | ■ |
| HDM3E-1600 | ■ | / | / | / | / |

**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.

**Draw out**

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



**Handle**

**Handle operating mechanism**

The circuit breaker can be operated by the rotation of the handle and the ergonomically designed rotation handle makes the operation of the circuit breaker more flexible.

**2 types of rotation handle operating mechanisms:**

> Direct rotation handle (round handle operating mechanism and square handle operating mechanism)
> Extended rotation handle (round extending handle operating mechanism and square extended handle operating mechanism)

**User visualization information/settings:**

> 3 position indications: OFF, ON and TRIP
>The circuit breaker cannot be switched on when the door is open
>The door cannot be opened when the circuit breaker is switched on
>The axial length of the extended handle can be custom made according to the distance from the back of the circuit breaker to the door.

# HDM3/3v/3L/3E Series MCCB

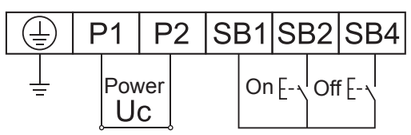
**Rear connection**
Easy to install and connect the products in the rear connection.

**Expend termial**
The extension terminal is connected to the standard terminal
of the circuit breaker, in order to provide many other wiring schemes in the limited space:
>Direct extension terminal
>Extension terminal with inter-electrode distance

The busbar and extension terminal can be connected to the inlet or outlet terminal of the circuit breaker.

**Interphase barriers**
The interphase barriers can enhance the insulating performances between phase and phases .
They can be installed from the product front even though the products had mounted.
Interphase barriers will be offered by standard, 3P product(4pcs), 4P product(6pcs).

**Motor**
- Apply to remote electric connection, disconnection and re-trip of the circuit breaker and the automation control occasions.
- Rated voltage of electric operating mechanism: AC400V;AC230V/DC220V;AC/DC110V;DC24V
- Operating voltage range of electric operating mechanism: 85%-110% Ue




- CD2 electric operating voltage and tolerance range:
  - CD2:63A-250A:Operating frequency ≤180times/hour and actuation ; time ≤ greater than 0.7s
  - CD2:400A-1600A:Operating frequency of ≤ 60times/hour; actuation time ≤ 1s
- The voltage tolerance range is 184~253VAC/187~242VDC when the rated control power voltage is 230VAC/220VDC.
  - The voltage tolerance range is 320~440VAC when the rated control power voltage is 400VAC.
  - As for different operating forces of the circuit breaker, the switch with relatively small force can be normal.

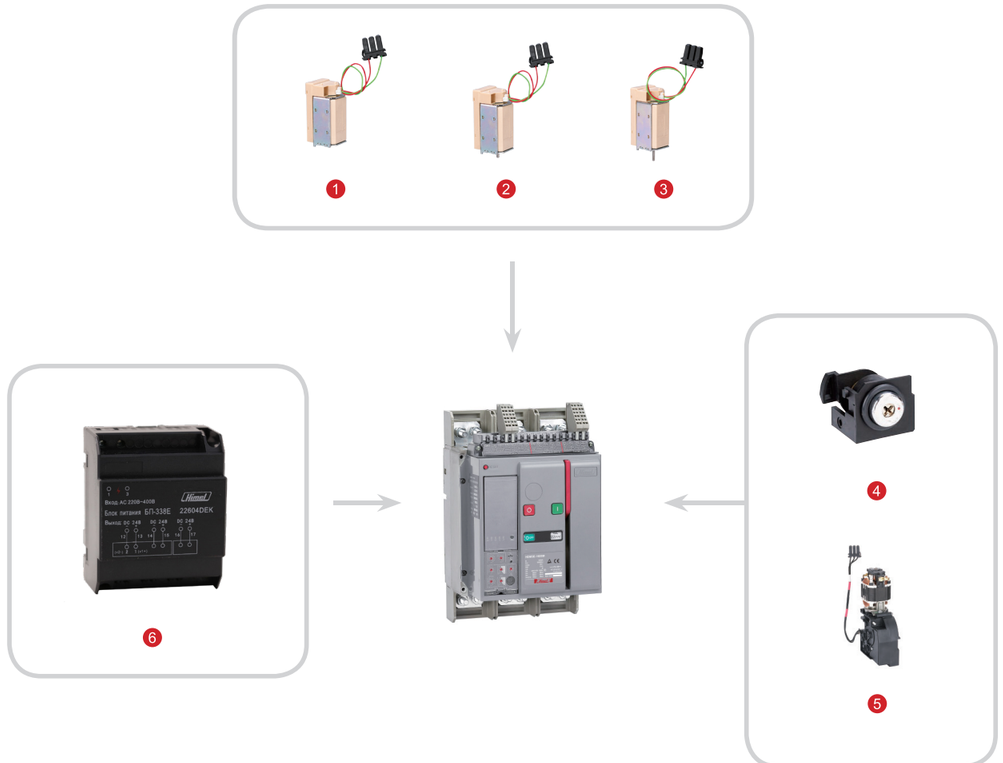




# HDM3/3v/3L/3E Series MCCB

## Accessories HDM3E 1600

**Overview of Accessories**

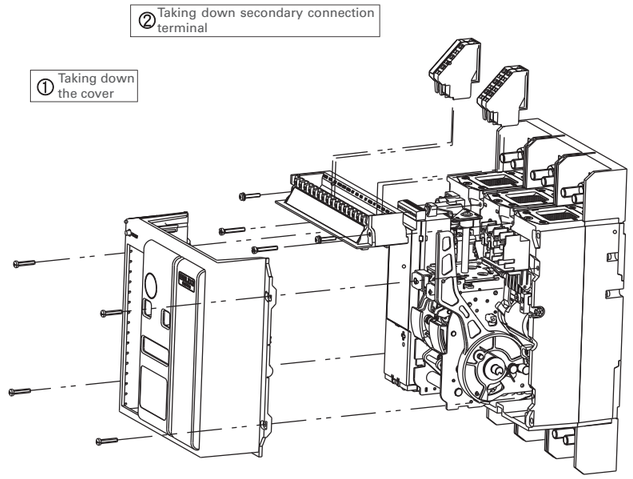



| | | | | | |
|---|---|---|---|---|---|
| 1 | Close release | 3 | Undervoltate release | 5 | Motor |
| 2 | Shunt release | 4 | Key lock | 6 | Power Module |

# HDM3/3v/3L/3E Series MCCB

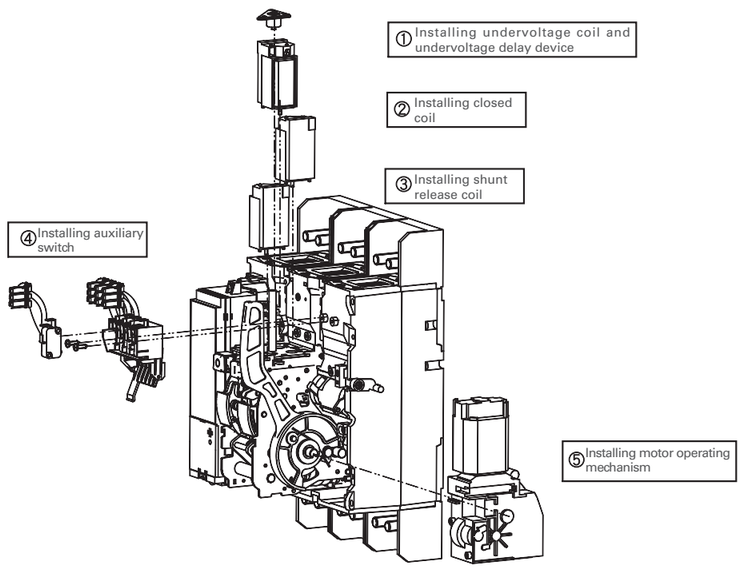
## HDM3E 1600 Accessories install and wiring

**Taking down the cover and secondary connection terminal.**




Danger:
Make sure power supply shut down before installtion

**Installing coil,motor operating mechanism and auxiliary contact**



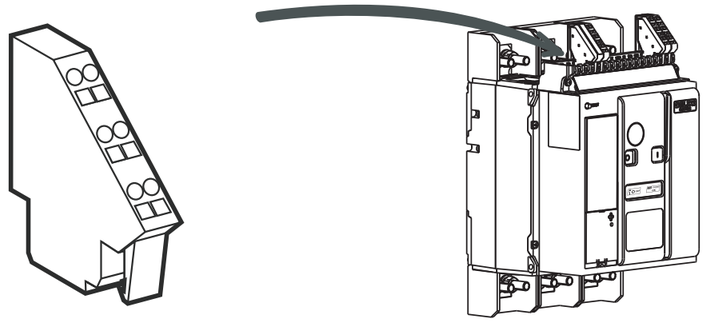



LOW VOLTAGE DISTRIBUTION

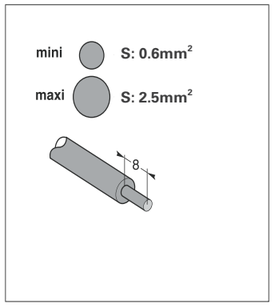
# HDM3/3v/3L/3E Series MCCB

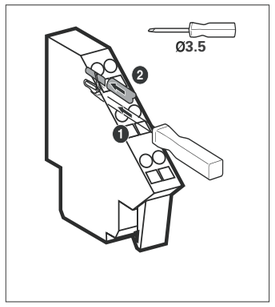
**Fixing auxiliary terminal**

Fixed type
Inserting auxiliary terminal into groove directly



**Wiring for axuiliary terminal**




| Sectional area of wire |
|---|
| Min 0.6mm² |
| Max 2.5mm² |
| The stripper wire needs at least 8mm |

| |
|---|
| 1 Insert screwdriver into the box and press down |
| 2 Meanwhile insert wire into circle |
| 3 Release screwdriver, make sure wire connect with auxiliary terminal |

**Terminal layout**

DC24V

| Res | SWT2 | UM | | ZSI | | Pow | SWT | Com | CT | MN | MX | XF | MCH | PF | OF4 | OF3 | OF2 | OF1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 22 | 13 | 17 | 1 | 5 | 10 | 25 | 27 | 29 | 31 | 35 | | 38 | 41 | 44 | 47 |
| | | | 23 | 16 | 19 | | 3 | 12 | | | | | 33 | | 36 | 39 | 42 | 45 |
| | | 21 | 24 | 14 | 15 | 2 | 4 | 11 | 26 | 28 | 30 | 32 | 34 | | 37 | 40 | 43 | 46 |
| Control Unit | | | | | | | | | | Remote Operating | | | | | Auxiliary Switch | | | |

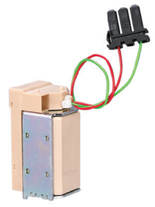
1. Check terminal serial number
2. Inserting same serial number of connection port
3. Pow 1,2 is DC24V power supply port, make sure use with DC 24V from factory. Note:DC24V can be positive and negative connection, do not access directly to 230V power.

# HDM3/3v/3L/3E Series MCCB

**Undervoltage release**

- Function introduction
- The under-voltage release automatically opens a circuit breaker when voltage drops to a value ranging between 35% to 70% of the line voltage. After tripping the circuit breaker cannot be re-closed again when the voltage goes below 35% or until it returns to 85% of line voltage. Under-voltage relay release makes the breaker break in 1s-3s (adjustable)

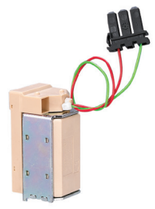
| Accessory parameter | |
|---|---|
| Rated operational voltage V | AC400V AC230V |
| Operational voltage | (0.35-0.7)Ue |
| Dependable closing voltage | (0.85-1.1)Ue |
| Unable closing voltage | ≤0.35Ue |
| Consumption | 12VA |
| Delay time | 1s-3s |



**Shunt release**

- Function introduction
- When the breaker is stored and under specified voltage, Shunt release can make the breaker break through long-distance remote control.

| Accessory parameter | |
|---|---|
| Rated operational voltage V | AC230V AC400V DC220V |
| Operation voltage | (0.7-1.1)Us |
| Consumption | 300VA(AC) 40W(DC) |
| Breaking time | <30ms |



**Closing release**

- Function introduction
- When the breaker is stored and under specified voltage, Shunt release can make the breaker close through long-distance remote control.

| Accessory parameter | |
|---|---|
| Rated operational voltage V | AC230V AC400V DC220V |
| Operational voltage | (0.85-1.1)Us |
| Consumption | 300VA(AC) 40W(DC) |
| Breaking time | <70ms |



LOW VOLTAGE DISTRIBUTION

HDM3/3v/3L/3E Series MCCB

**Motor**

- When the breaker is open with power supply, MCH can store energy for ACB automatically, thus the breaker can be opened and closed with the operation of MX, MN, XF. It can be manually stored when there is no power.

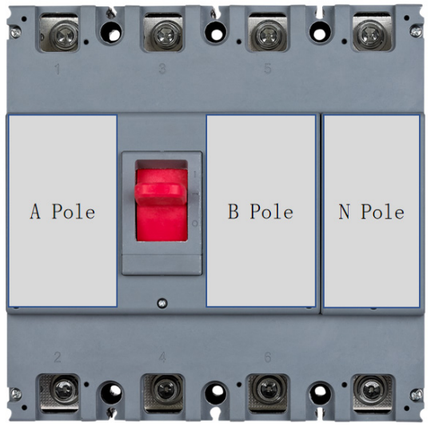
| Accessory parameter | |
|---|---|
| Rated control power voltage V | AC230V AC400V DC220V |
| Action voltage | (0.85-1.1)Us |
| Consumption | 150W (maxi.) |
| Energy storage time | <5s |

**Power supply**

- Function introduction
- In direct current, supply auxiliary power supply for intelligent controller

| Accessory parameter | | |
|---|---|---|
| Model | Input | Output |
| IAPU334 | AC220V~400V | DC24V 0.4A |
| IAPU332D | DC220V/110V | |

## Show the installation position of internal accessories



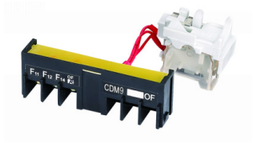

| HDM3/HDM3v/HDM3E | A pole | Mechanism | C pole | N pole |
|---|---|---|---|---|
| 2P | _ | | R/RS | |
| 3P | L | | R/RS | |
| 4P | L | | R/RL | _ |

| HDM3L | A pole | Mechanism | C pole | N pole |
|---|---|---|---|---|
| 3P | L | | _ | |
| 4P | L | | _ | R/RS |

Notes
L: Install in left side of switch
R: Install in right side of switch
RS:Install in right side of swith with short line
RL:Install in right side of swith with long line

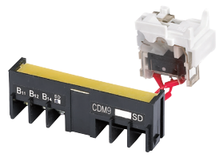
# HDM3/3v/3L/3E Series MCCB

## Accessories Selection Guide


### Auxiliary Contact (OF)

| Frame size | Contact | Auxiliary contact with wire | | Auxiliary contact with terminal | | | |
|---|---|---|---|---|---|---|---|
| | | Left | Right | Left | Right R | Right RS | Right RL |
| HDM3-100L/S<br>HDM3v-125C 2P<br>HDM3v-250S 2P | 1NC+1NO | HDM3100SOF11K1BL | HDM3100SOF11K1BR | HDM3100SOF21K1BL | HDM3100SOF21K1BR4 | - | - |
| | 2NC+2NO | HDM3100SOF12K2BL | HDM3100SOF12K2BR | HDM3100SOF22K2BL | - | HDM3100SOF22K2BR3 | HDM3100SOF22K2BR4 |
| HDM3-100T/N/F<br>HDM3L-125 | 1NC+1NO | HDM3100FNOF11K1BL | HDM3100FNOF11K1BR | HDM3100FNOF21K1BL | HDM3100FOF21K1BR4 | - | - |
| | 2NC+2NO | HDM3100FNOF12K2BL | HDM3100FNOF12K2BR | HDM3100FNOF22K2BL | - | HDM3100FOF22K2BR3 | HDM3100FOF22K2BR4 |
| HDM3-160/250<br>HDM3L-160/250<br>HDM3E-125/250 | 1NC+1NO | HDM3250OF11K1BL | HDM3250OF11K1BR | HDM3250OF21K1BL | HDM3250OF21K1BR4 | - | - |
| | 2NC+2NO | HDM3E250OF12K2BL | HDM3E250OF12K2BR | HDM3E250OF22K2BL | - | HDM3E250OF22K2BR3 | HDM3E250OF22K2BR4 |
| HDM3-400/630<br>HDM3v-630b/800<br>HDM3L-400<br>HDM3E-400/630/800 | 1NC+1NO | HDM3630OF11K1BL | HDM3630OF11K1BR | HDM3630OF11K1BR | HDM3630OF21K1BR4 | - | - |
| | 2NC+2NO | HDM3E630OF12K2BL | HDM3E630OF12K2BR | HDM3E630OF22K2BL | - | HDM3E630OF22K2BR3 | HDM3E630OF22K2BR4 |
| HDM3L-630 | 1NC+1NO | HDM3800OF11K1BL | HDM3800OF11K1BR | HDM3800OF21K1BL | HDM3800OF21K1BR4 | - | - |
| HDM3-1600 | 2NC+2NO | - | HDM31600OF12K2BR | - | - | - | - |


### Alarm Contact (SD)

| Frame size | Alarm contact with wire | | Alarm contact with Terminal | |
|---|---|---|---|---|
| | Left | Right | Left | Right R |
| HDM3-100L/S<br>HDM3v-125C 2P<br>HDM3v-250S 2P | HDM3100SAL1L | HDM3100SAL1R | HDM3100SAL2L | HDM3100SAL2R4P |
| HDM3-100T/N/F<br>HDM3L-125 | HDM3100FNAL1L | HDM3100FNAL1R | HDM3100FNAL2L | HDM3100FNAL2R4P |
| HDM3-160/250<br>HDM3L-160/250<br>HDM3E-125/250 | HDM3250AL1L | HDM3250AL1R | HDM3250AL2L | HDM3250AL2R4P |
| HDM3-400/630<br>HDM3v-630b/800<br>HDM3L-400<br>HDM3E-400/630/800 | HDM3630AL1L | HDM3630AL1R | HDM3630AL2L | HDM3630AL2R4P |
| HDM3L-630 | HDM3800AL1L | - | HDM3800AL2L | - |
| HDM3-1600 | - | HDM31600AL1R | - | - |





# HDM3/3v/3L/3E Series MCCB



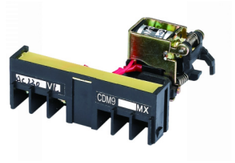
### Auxiliary&Alarm Contact (OFSD)

| Frame size | Auxiliary Alarm with wire | | Auxiliary Alarm with Terminal | | |
|---|---|---|---|---|---|
| | Left | Right | Left | Right RS | Right RL |
| HDM3-100L/S<br>HDM3v-125C 2P<br>HDM3v-250S 2P | HDM3100SOFAL1L | HDM3100SOFAL1R | HDM3100SOFAL2L | HDM3100SOFAL2R3P | HDM3100SOFAL2R4P |
| HDM3-100T/N/F<br>HDM3L-125 | HDM3100FNOFAL1L | HDM3100FNOFAL1R | HDM3100FNOFAL2L | HDM3100FNOFAL2R3 | HDM3100FNOFAL2R4 |
| HDM3-160/250<br>HDM3L-160/250<br>HDM3E-125/250 | HDM3250OFAL1L | HDM3250OFAL1R | HDM3250OFAL2L | HDM3250OFAL2R3P | HDM3250OFAL2R4P |
| HDM3-400/630<br>HDM3v-630b/800<br>HDM3L-400<br>HDM3E-400/630/800 | HDM3630OFAL1L | HDM3630OFAL1R | HDM3630OFAL2L | HDM3630OFAL2R3P | HDM3630OFAL2R4P |
| HDM3L-630 | HDM3800OFAL1L | - | HDM3630OFAL2L | - | - |
| HDM3-1600 | - | HDM31600OFAL1R | - | - | - |


### Under Voltage Release(MN)

| Frame size | Under voltage release with Terminal | |
|---|---|---|
| | Voltage | Left |
| HDM3-100L/S | AC230V | HDM363MNA2L |
| | AC400V | HDM363MNA3L |
| HDM-100T/N/F<br>HDM3L-125 | AC230V | HDM3100FNMNA2L |
| | AC400V | HDM3100FNMNA3L |
| HDM3-160/250<br>HDM3L-160/250<br>HDM3E-125/250 | AC230V | HDM3E125250MNA2L |
| | AC400V | HDM3E125250MNA3L |
| HDM3-400/630<br>HDM3v-630b/800<br>HDM3L-400<br>HDM3E-400/630/800 | AC230V | HDM3E400630MNA2L |
| | AC400V | HDM3E400630MNA3L |
| HDM3L-630 | AC230V | HDM3800MNA2L |
| | AC400V | HDM3800MNA3L |
| HDM3-1600 | AC230V | HDM31600MNA2 |
| | AC400V | HDM31600MNA3 |

# HDM3/3v/3L/3E Series MCCB



## Shunt Release(MX)

| Frame size | Voltage | Shunt release with wire | | Shunt release with Terminal | |
|---|---|---|---|---|---|
| | | Left | Right R | Left | Right R |
| HDM3-100L/S<br>HDM3v-125C 2P<br>HDM3v-250S 2P | AC230V | - | HDM3100SMX1A2 | - | HDM3100SMX2A24P |
| | AC400V | - | HDM3100SMX1A3 | - | HDM3100SMX2A34P |
| | DC24V | - | HDM3100SMX1D2 | - | HDM3100SMX2D24P |
| HDM3-100T/N/F<br>HDM3L-125 | AC230V | HDM3100FNMX1A2L | HDM3100FNMX1A2 | HDM3100FNMX2A2L | HDM3100FNMX2A24P |
| | AC400V | HDM3100FNMX1A3L | HDM3100FNMX1A3 | HDM3100FNMX2A3L | HDM3100FNMX2A34P |
| | DC24V | HDM3100FNMX1D2L | HDM3100FNMX1D2 | HDM3100FNMX2D2L | HDM3100FNMX2D24P |
| HDM3-160/250<br>HDM3L-160/250<br>HDM3E-125/250 | AC230V | HDM3250MX1A2L | HDM3250MX1A2 | HDM3250MX2A2L | HDM3250MX2A24P |
| | AC400V | HDM3250MX1A3L | HDM3250MX1A3 | HDM3250MX2A3L | HDM3250MX2A34P |
| | DC24V | HDM3250MX1D2L | HDM3250MX1D2 | HDM3250MX2D2L | HDM3250MX2D24P |
| | DC110V | - | HDM3E125250MX1D11 | - | HDM3E250MX2D114P |
| | DC220V | - | HDM3E125250MX1D22 | - | HDM3E250MX2D224P |
| HDM3-400/630<br>HDM3v-630b/800<br>HDM3L-400<br>HDM3E-400/630/800 | AC230V | HDM3630MX1A2L | HDM3630MX1A2 | HDM3630MX2A2L | HDM3630MX2A24P |
| | AC400V | HDM3630MX1A3L | HDM3630MX1A3 | HDM3630MX2A3L | HDM3630MX2A34P |
| | DC24V | HDM3630MX1D2L | HDM3630MX1D2 | HDM3630MX2D2L | HDM3630MX2D24P |
| | DC110V | - | HDM3E400630MX1D11 | - | HDM3E630MX2D114P |
| | DC220V | - | HDM3E400630MX1D22 | - | HDM3E630MX2D224P |
| HDM3L-630 | AC230V | HDM3800MX1A2L | HDM3800MX1A2R | HDM3800MX2A2L | HDM3800MX2A2R4P |
| | AC400V | HDM3800MX1A3L | HDM3800MX1A3R | HDM3800MX2A3L | HDM3800MX2A3R4P |
| | DC24V | HDM3800MX1D2L | HDM3800MX1D2R | HDM3800MX2D2L | HDM3800MX2D2R4P |
| HDM3-1600 | AC230V | HDM31600MX1A2L | - | - | - |
| | AC400V | HDM31600MX1A3L | - | - | - |
| | DC24V | HDM31600MX1D2L | - | - | - |





# HDM3/3v/3L/3E Series MCCB

## Rear Connection

| Frame size | Rear connection | |
|---|---|---|
| | 3P(6pcs) | 4P(8pcs) |
| HDM3-100L/S | HDM363RC3 | HDM363RC4 |
| HDM3-100T/N/F<br>HDM3L-125 | HDM3100FNRC3 | HDM3100FNRC4 |
| HDM3-160/250<br>HDM3L-160/250<br>HDM3E-125/250 | HDM3250RC3 | HDM3250RC4 |
| HDM3-400/630<br>HDM3L-400<br>HDM3E-400/630 | HDM3630RC3 | HDM3630RC4 |
| HDM3v-630b | HDM3V630BRC3 | HDM3V630BRC4 |
| HDM3v-800<br>HDM3E-800<br>HDM3L-630 | HDM3800RC3 | HDM3800RC4 |

## Plug-in

| Frame size | Plug-in | | |
|---|---|---|---|
| | Connection type | 3P | 4P |
| HDM3-100L/S | Front connection | HDM3100SPFC3 | HDM3100SPFC4 |
| | Rear conection | HDM3100SPRC3 | HDM3100SPRC4 |
| HDM3-100T/N/F | Front connection | HDM3100FNPFC3 | HDM3100FNPFC4 |
| | Rear conection | HDM3100FNPRC3 | HDM3100FNPRC4 |
| HDM3-160/250L/S | Front connection | HDM3250SPFC3 | HDM3250SPFC4 |
| | Rear conection | HDM3250SPRC3 | HDM3250SPRC4 |
| HDM3-160/250M/F/T/N<br>HDM3E-125/250 | Front connection | HDM3E125250PFC3 | HDM3E125250PFC4 |
| | Rear conection | HDM3E125250PRC3 | HDM3E125250PRC4 |
| HDM3-400/630<br>HDM3E 400/630 | Rear conection | HDM3E630PRC3 | HDM3E630PRC4 |
| HDM3v-630b | Rear conection | HDM3V630BPRC3 | HDM3V630BPRC4 |
| HDM3v-800<br>HDM3E-800 | Rear conection | HDM3E800PRC3 | HDM3E800PRC4 |

Front connection

Rear connection

## Draw-Out

| Frame size | Draw-out | | |
|---|---|---|---|
| | Connection type | 3P | 4P |
| HDM3-400<br>HDM3E-400 | Horizontal conection | HDM3E400DOR3 | HDM3E400DOR4 |
| HDM3-630<br>HDM3E-630 | Horizontal conection | HDM3E630DOR3 | HDM3E630DOR4 |
| HDM3v-630b | Horizontal conection | HDM3V630BDOR3 | HDM3V630BDOR4 |
| HDM3E-800<br>HDM3v-800 | Horizontal conection | HDM3E800DOR3 | HDM3E800DOR4 |

# HDM3/3v/3L/3E Series MCCB

## Rotary Handle

| Frame size | Rotary Handle | | |
|---|---|---|---|
| | Handle shape | Direct | Extended (Defult 150mm) |
| HDM3-100L/S | Round | HDM3100SH1 | HDM3100SHL1 |
| | Square | HDM3100SH2 | HDM3100SHL2 |
| HDM3-100T/N/F | Round | HDM3100FNH1 | HDM3100FNHL1 |
| | Square | HDM3100FNH2 | HDM3100FNHL2 |
| HDM3E-125/250 | Round | HDM3E125250H1 | HDM3E125250HL1 |
| | Square | HDM3E125250H2 | HDM3E125250HL2 |
| HDM3-160/250 | Round | HDM3250H1 | HDM3250HL1 |
| | Square | HDM3250H2 | HDM3250HL2 |
| HDM3-400/630 | Round | HDM3630H1 | HDM3630HL1 |
| | Square | HDM3630H2 | HDM3630HL2 |
| HDM3E-400/630 | Round | HDM3E400630H1 | HDM3E400630HL1 |
| | Square | HDM3E400630H2 | HDM3E400630HL2 |
| HDM3v-630b | Round | HDM3V630BH1 | HDM3V630BHL1 |
| | Square | HDM3V630BH2 | HDM3V630BHL2 |
| HDM3v-800<br>HDM3E-800 | Round | HDM3E800H1 | HDM3E800HL1 |
| | Square | HDM3E800H2 | HDM3E800HL2 |
| HDM3-1600 | Square | - | HDM31600HL2 |

Note:Defualt lenth of rod is 150mm.if require more, please order below shaft individually.

Round

Square

## Shaft

| | 300mm |
|---|---|
| ≤ 250A: | HDM3-8x8ROD300 |
| ＞ 250A: | HDM3-10x10ROD300 |

## Motor

| Frame size | Motor | | |
|---|---|---|---|
| | AC230V | AC400V | DC220V |
| HDM3-100L/S | HDM3100SD1A2 | HDM3100SD1A3 | HDM3100SD2 |
| HDM3-100T/N/F | HDM3100FND1A2 | HDM3100FND1A3 | HDM3100FND2 |
| HDM3-160/250 | HDM3250FD1A2 | HDM3250FD1A3 | HDM3250FD2 |
| HDM3E-125/250 | HDM3E125250D2 | HDM3E125250D4 | — |
| HDM3-630<br>HDM3E-630 | HDM3630D1A2 | HDM3630D1A3 | HDM3630D2 |
| HDM3v-630b | HDM3V630BDA2D2 | HDM3V630BDA4 | HDM3V630BDA2D2 |
| HDM3v-800<br>HDM3E-800 | HDM3E800D2 | HDM3E800D4 | HDM3E800D2 |
| HDM3-1600 | HDM31600CD1A2 | HDM31600CD1A3 | - |





# HDM3/3v/3L/3E Series MCCB

## Extension Terminal

| Frame size | Type | Extension terminal | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2P(2pcs) | AB distance (mm) | 3P(3pcs) | ABC distance (mm) | 4P(3pcs) | ABCN distance (mm) |
| HDM3-100L/S | Stright | HDM3100C2 | 25 | HDM3100C3 | 25-25 | HDM3100C4 | 25-25-25 |
| HDM3v-125 2P | Spread | HDM3100SC2 | 35 | HDM3100SC3 | 30-30 | HDM3100SC4 | 30-25-30 |
| HDM3-100T/N/F | Stright | - | - | HDM3100C3 | 30-30 | HDM3100C4 | 30-30-30 |
| HDM3L-125 | Spread | - | - | HDM3100SC3 | 35-35 | HDM3100SC4 | 35-30-35 |
| HDM3-160/250<br>HDM3v-250 2P | Stright | HDM3250C2 | 35 | HDM3250C3 | 35-35 | HDM3250C4 | 35-35 |
| HDM3L-160/250<br>HDM3E-125/250 | Spread | HDM3250SC2 | 45 | HDM3250SC3 | 40-40 | HDM3250SC4 | 40-35-40 |
| HDM3-400<br>HDM3L-400<br>HDM3E-400 | Stright | - | - | HDM3400C3 | 48-48 | HDM3400C4 | 48-48-48 |
| | Spread | - | - | HDM3400SC3 | 58.5-58.5 | HDM3400SC4 | 58.5-48-58.5 |
| HDM3-630<br>HDM3E-630 | Stright | - | - | HDM3630C3 | 48-48 | HDM3630C4 | 48-48-48 |
| | Spread | - | - | HDM3630SC3 | 58.5-58.5 | HDM3630SC4 | 58.5-48-58.5 |
| HDM3v-630b | Stright | - | - | HDM3V630BC3 | 58-58 | HDM3V630BC4 | 58-58-58 |
| | Spread | - | - | HDM3V630BSC3 | 68-68 | HDM3V630BSC4 | 68-58-68 |
| HDM3v-800<br>HDM3L-630<br>HDM3E-800 | Stright | - | - | HDM3E800C3 | 70-70 | HDM3E800C4 | 70-70-70 |
| HDM3-1600 | Stright | - | - | HDM31600C3 | 70-70 | - | - |

## Interphase barriers

| Frame size | Interphase barriers | |
|---|---|---|
| | 2P/3P (2pcs) | 4P(3pcs) |
| HDM3-100L/S<br>HDM3v-125 2P | HDM3100SIB3 | HDM3100SIB4 |
| HDM3-100T/N/F<br>HDM3L-125 | HDM3100FNIB3 | HDM3100FNIB4 |
| HDM3-160/250L/S<br>HDM3v-250 2P | HDM3250SIB3 | HDM3250SIB4 |
| HDM3-160/250T/N/F<br>HDM3L-160/250<br>HDM3E-125/250 | HDM3250FIB3 | HDM3250FIB4 |
| HDM3-400/630<br>HDM3v-630b<br>HDM3L-400<br>HDM3E-400/630 | HDM3630IB3 | HDM3630IB4 |
| HDM3L-630 | HDM3800IB3 | HDM3800IB4 |
| HDM3E-800<br>HDM3v-800 | HDM3E800IB3 | HDM3E800IB4 |

## Terminal Cover

| Frame size | size | Terminal Cover | |
|---|---|---|---|
| | | 3P | 4P |
| HDM3v-630b | short terminal cover | HDM3v630bSTC3 | HDM3v630bSTC4 |
| | long terminal cover(transparency) | HDM3v630bLTC3 | HDM3v630bLTC4 |
| HDM3v-800 | short terminal cover | HDM3v800STC3 | HDM3v800STC4 |
| | long terminal cover(transparency) | HDM3v800LTC3 | HDM3v800LTC4 |

# HDM3/3v/3L/3E Series MCCB

## Terminal Lug

| Frame size | Terminals | Torque | Diameter | Cross-section of cable/mm$^2$ | Minimum order quantity |
|---|---|---|---|---|---|
| HDM3-100L/S | LUG100S1 | 12 | 1xφ10 | 20~50 | 108pcs |
| | LUG100S1E（Extend） | 12 | 1xφ11 | 20~50 | 84pcs |
| HDM3-100T/N/F HDM3L-125 | LUG100F1 | 12 | 1xφ12 | 20~50 | 84pcs |
| | LUG100F1E（Extend） | 12 | 1xφ11 | 20~50 | 84pcs |
| HDM3-160 HDM3L-160 HDM3E-125 | LUG1601[1)] | 20 | 1xφ16 | 25~120 | 84pcs |
| | LUG1601E（Extend） | 20 | 1xφ15 | 25~120 | 24pcs |
| HDM3-160/250 HDM3L-160/250 HDM3E-125/250 | LUG2502E（Extend） | 20 | 2xφ18 | 2x（25-120） | 12pcs |
| HDM3-400 HDM3L-400 HDM3E-400 | LUG4001 | 30 | 1xφ23.3 | 50~240 | 12pcs |
| | LUG4001E（Extend） | 30 | 1xφ23.5 | 50~240 | 12pcs |
| HDM3-400/630 HDM3L-400 HDM3E-400/630 | LUG6302（Extend） | 35 | 2xφ22 | 2x(50~185) | 6pcs |
| HDM3v-800 HDM3L-630 HDM3E-800 | LUG8004E（Extend） | 35 | 4xφ22 | 4x(50~185) | 3pcs |

In special application:"HDM3-160/250 HDM3L-160/250 HDM3E-125/250"also can use this Terminal Lug.Please take care the max connection cross section.





# HDM3/3v/3L/3E Series MCCB

## Power Supplier

| 1600A Accessories | | |
|---|---|---|
| Acc Name | AC220~400V Input | DC220/110V Input |
| Power module | IAPU334 | IAPU332D |

## Zero arc flash

| Frame Size | Zero arc flashPlate | |
|---|---|---|
| | 3P | 4P |
| HDM3v-630b | HDM3v630bZAF3 | HDM3v630bZAF4 |
| HDM3v-800 | HDM3v800bZAF3 | HDM3v800bZAF4 |

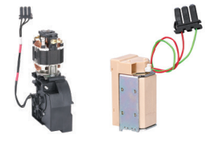
## Pad lock

| Padlock | 3P/4P |
|---|---|
| HDM3v-630b HDM3v-800 | HDM3v800PL |

## Modbus RTU module

| Frame size | Modbus RTU module (Rs 485 Remote control+Remote Signal) |
|---|---|
| HDM3&HDM3v | HDM3ECOM(Input AC230/400V) |
| HDM3L | |
| HDM3E | |

| HDM3E-1600A Accessories | | |
|---|---|---|
| Acc Name | AC230V | AC400V |
| Close release | HDW3XF2A | HDW3XF3A |
| Shunt release | HDW3MX2A | HDW3MX3A |
| Undervoltage release | HDW3MN2A | HDW3MN3A |
| Motor | HDW3MCH162A | HDW3MCH163A |

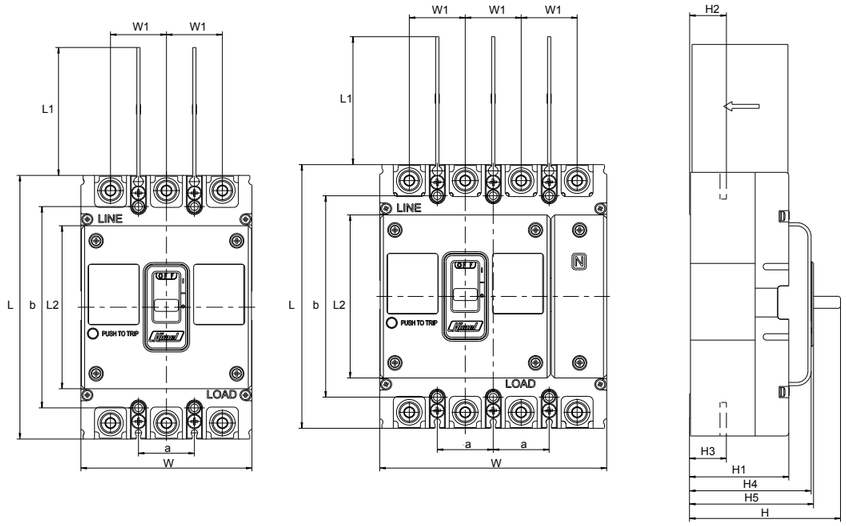


# HDM3/3v/3L/3E Series MCCB

## Dimensions and conenction HDM3/HDM3L/HDM3E 100-800

### Fixed MCCB mounting dimension

**Front connection(mm)**



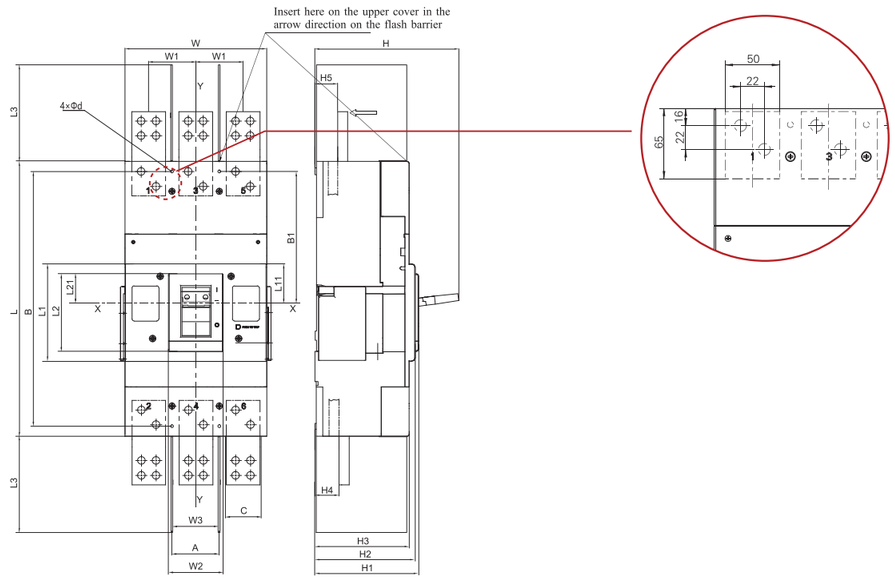

| Product type | Poles | Overall dimension | | | | | | | | | | | Installation dimension | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L | L1 | L2 | W | W1 | H | H1 | H2 | H3 | H4 | H5 | a1 | a2 | b |
| HDM3-100L/S | 3/4 | 130 | 50 | 83 | 75/100 | 25 | 81.5 | 54 | 24 | 24 | 68 | 70.5 | 25 | 25 | 111 |
| HDM3-100T/N<br>HDM3L-125 | 3/4 | 150 | 50 | 96 | 92/122 | 30 | 111.5 | 81 | 28.5 | 28 | 93.5 | 95.5 | 30 | 30 | 129 |
| HDM3v-125 | 2 | 132 | 50 | 83 | 56 | 25 | 82 | 56 | 24 | 24 | 66 | 71 | - | - | 111 |
| HDM3v-250 | 2 | 165 | 80 | 102 | 79 | 35 | 100 | 66.5 | 24 | 24 | 77 | 82 | - | - | 126 |
| HDM3-160/250S | 3/4 | 165 | 50 | 102 | 107/142 | 35 | 94.5 | 62 | 23 | 23 | 76 | 77.5 | 35 | 35 | 126 |
| HDM3-160/250FN<br>HDM3L-160/250 | 3/4 | 165 | 80 | 102 | 107/142 | 35 | 112.5 | 80 | 23 | 23 | 94 | 95.5 | 35 | 35 | 126 |
| HDM3E-125 | | | | | | | | 86 | 21.5 | | | | | | |
| HDM3E-250 | | | | | | | | | 23 | | | | | | |
| HDM3-400<br>HDM3L-400 | 3/4 | 257 | 104.5 | 102 | 150/198 | 48 | 145.9 | 96.2 | 36 | 36.5 | 107.5 | 112.5 | 44 | 44 | 215 |
| HDM3E-400 | | | | 161.5 | | | | | | | | | | - | |
| HDM3-630 | | | | 150 | | | | | 38 | 39 | | | | 44 | |
| HDM3E-630 | | | | 161.5 | | | | | | | | | | - | |
| HDM3L-630 | 3/4 | 280 | 102 | 102 | 210/280 | 70 | 160 | 108 | 40.5 | 41.5 | 111 | 119 | 70 | 70 | 243 |
| HDM3v-630b | 3/4 | 257 | 105 | 150 | 182 | 58 | 148 | 98 | 39.5 | 39.5 | 110 | 115 | 58 | 58 | 200 |
| | | | | | 240 | | | | | | | | | | |
| HDM3v-800 | 3/4 | 280 | 105 | 135 | 210 | 70 | 158 | 108.5 | 40.5 | 45 | 118.5 | 123.5 | 70 | 70 | 243 |
| | | | | | 280 | | | | | | | | | | |
| HDM3E-800 | 3/4 | 280 | 104.5 | 102 | 210/280 | 70 | 146.5 | 97.5 | 32.5 | 35.5 | 100 | 114 | 70 | 70 | 243 |
| | | | | 170 | | | 154 | 103 | 40.5 | 47 | 116 | 121 | | | |





# HDM3/3v/3L/3E Series MCCB

## Dimensions and conenction HDM3 1600




Unit:mm

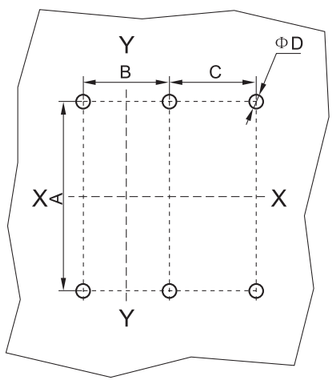
| Product model HDM3- | Number of poles | Outline dimensions | | | | | | | | | | | | | | Installation dimensions | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L | L1 | L11 | L2 | L21 | L3 | W | W1 | W2 | W3 | H | H1 | H2 | H3 | H4 | H5 | A | B | B1 | C | Φd |
| 1600F/N | 3 | 408 | 145 | 52 | 115 | 37 | 140 | 223 | 70 | 81 | 68 | 213 | 154 | 149 | 140 | 36 | 34 | 70 | 378 | 189 | 50 | 6 |

| Recommended value for the wiring capacity | | | |
|---|---|---|---|
| Rated current(A) | 1000 | 1250 | 1600 |
| Recommended sectional area of wire($mm^2$) | - | - | - |
| Recommended sectional area of copper busbar($mm^2$) | 300x2 | 400x2 | 500x2 |

| Recommended value of the wiring screw tightening torque | |
|---|---|
| Product model HDM3- | 1600 |
| Socket hex wiring screw | M10 |
| Torque(N.m) | 11-14 |

# HDM3/3v/3L/3E Series MCCB

**Fixed front installation hole dimensions**




Note: X-X and Y-Y is the center of the three-pole breaker

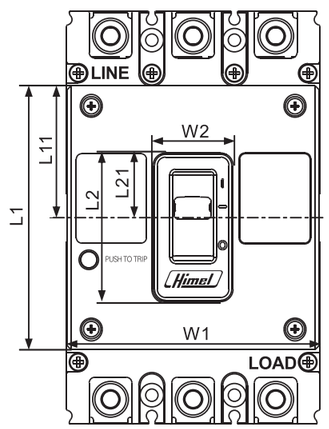
| Product type | Poles | Installation dimension | | | |
|---|---|---|---|---|---|
| | | A | B | C | ϕD |
| HDM3-100L/S | 3 | 111 | 25 | / | 4.5 |
| | 4 | 111 | 25 | 25 | |
| HDM3-100T/N/F<br>HDM3L-125 | 3 | 129 | 30 | / | 5 |
| | 4 | 129 | 30 | 30 | |
| HDM3-160/250<br>HDM3L-160/250 | 3 | 126 | 35 | / | 5.5 |
| | 4 | 126 | 35 | 35 | |
| HDM3v-125 | 2 | 111 | / | / | 5 |
| HDM3v-250 | 2 | 126 | / | / | 5 |
| HDM3-400/630<br>HDM3L-400 | 3 | 215 | 44 | / | 6.5 |
| | 4 | 215 | 44 | / | |
| HDM3L-630 | 3 | 243 | 70 | / | 7.5 |
| | 4 | 243 | 70 | 70 | |
| HDM3v-630b | 3 | 200 | 58 | / | 6.5 |
| | 4 | | | 58 | |
| HDM3v-800 | 3 | 243 | 70 | / | 7.5 |
| | 4 | | | 70 | |
| HDM3E-800 | 3 | 243 | 70 | / | 7.5 |
| | 4 | 243 | 70 | 70 | |
| HDM3-1600 | 3 | 378 | 70 | / | 6.2 |



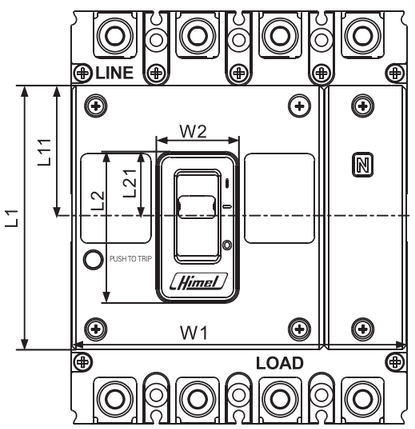


# HDM3/3v/3L/3E Series MCCB

**Fixed and insert type breaker panel cut off dimensions**




HDM3/HDM3L/HDM3v 100-1600 3P

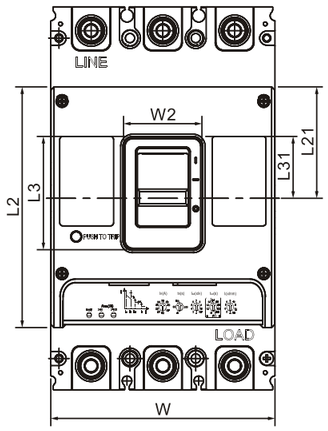



HDM3/HDM3L/HDM3v 100-800 4P

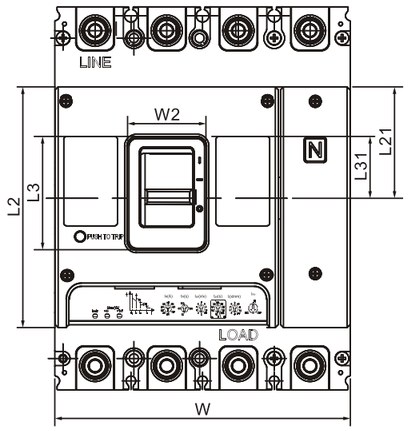
| Model | Poles | Exposed front cover Exposed toggle handle | | | Exposed toggle handle | | |
|---|---|---|---|---|---|---|---|
| | | W1 | L1 | L11 | W2 | L2 | L21 |
| HDM3-100L/S | 3 | 75 | 83 | 41.5 | 22 | 50 | 26 |
| | 4 | 100 | 83 | 41.5 | 22 | 50 | 26 |
| HDM3-100T/N/F<br>HDM3L-125 | 3 | 92 | 96 | 48 | 30 | 55 | 24 |
| | 4 | 122 | 96 | 48 | 30 | 55 | 24 |
| HDM3v-125 | 2 | 59 | 86 | 43 | 27 | 53 | 20 |
| HDM3v-250 | 2 | 82 | 105 | 52.5 | 31 | 56 | 30.5 |
| HDM3-160<br>HDM3-250<br>HDM3L-160<br>HDM3L-250 | 3 | 107 | 102 | 51 | 26 | 54 | 27 |
| | 4 | 142 | 102 | 51 | 26 | 54 | 27 |
| HDM3-400<br>HDM3-630<br>HDM3L-400 | 3 | 150 | 150 | 75 | 52.5 | 75.5 | 41 |
| | 4 | 198 | 150 | 75 | 52.5 | 75.5 | 41 |
| HDM3v-630b | 3 | 185 | 153 | 76.5 | 56 | 85 | 42.5 |
| | 4 | 243 | | | | | |
| HDM3v-800 | 3 | 213 | 138 | 69 | 56 | 85 | 42.5 |
| | 4 | 283 | | | | | |
| HDM3L-630 | 3 | 210 | 200 | 100 | 65 | 105 | 51 |
| | 4 | 280 | 200 | 100 | 65 | 105 | 51 |
| HDM3-1600 | 3 | 213 | 148 | 53.5 | 84 | 118 | 38.5 |

# HDM3/3v/3L/3E Series MCCB

**Hole dimensions of fixed and inserted panels (mm)**



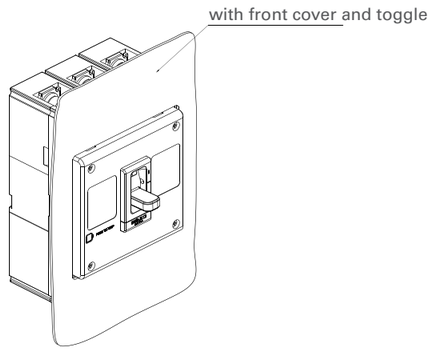

HDM3E 125-800 3P

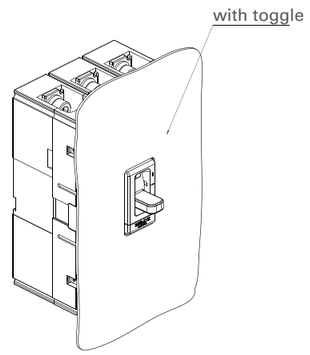



HDM3E 125-800 4P

Notes: dimension shown in the table is the actual dimension of the product
Please control the clearance of installation on your own

| Product Model | Poles | Exposed Panel and toggle handle | | | Only the toggle handle is exposed | | |
|---|---|---|---|---|---|---|---|
| | | W | L2 | L21 | W2 | L3 | L31 |
| HDM3E-125/250 | 3 | 107 | 102.5 | 51 | 26 | 50.5 | 26.5 |
| | 4 | 142 | | | | | |
| HDM3E-400/630 | 3 | 150 | 161.5 | 75 | 52.5 | 75.5 | 41 |
| | 4 | 198 | | | | | |
| HDM3E-800 | 3 | 210 | 170 | 67.5 | 55 | 85 | 42.5 |
| | 4 | 280 | | | | | |



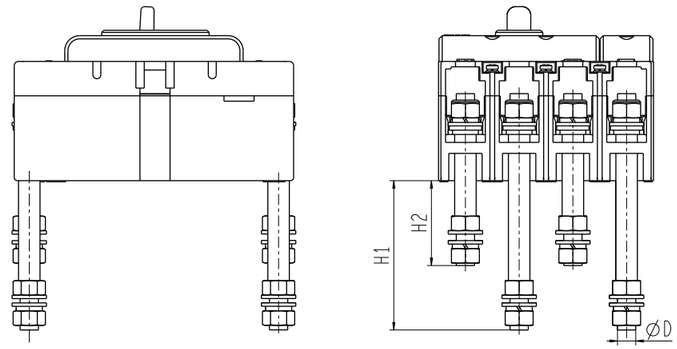








# HDM3/3v/3L/3E Series MCCB

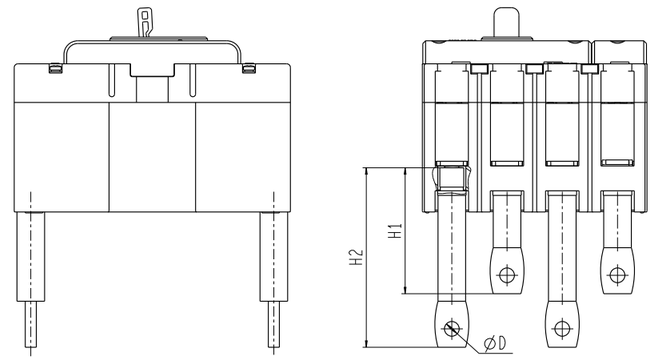
**Rear connection (mm)**




≤ 250A dimension drawing

| Product type | H1 | H2 | ϕD |
|---|---|---|---|
| HDM3-100L/S | 80 | 67 | 8 |
| HDM3-100T/N/F | 97 | 47 | 8 |
| HDM3-160 | 102 | 72 | 10 |
| HDM3-250 | 102 | 72 | 10 |
| HDM3E-125/250 | 102 | 72 | 10 |

**Installation dimensions**

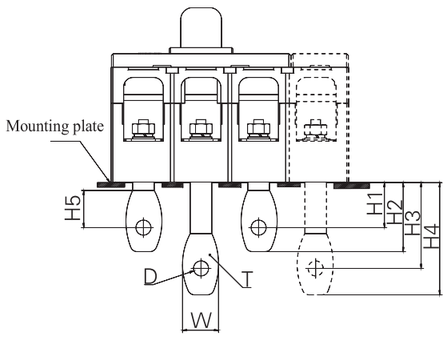



Above 250A dimension drawing

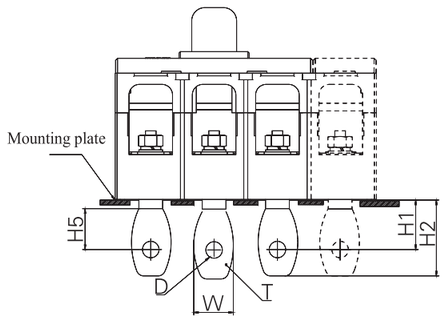
| Product type | H1 | H2 | D |
|---|---|---|---|
| HDM3-400 | 98 | 134 | 12.5 |
| HDM3-630 | 98 | 134 | 12.5 |
| HDM3-800 | 107 | 141 | 12.5 |
| HDM3E-400/630 | 92 | 128 | 12.5 |
| HDM3E-800 | 129 | 129 | 13 |

# HDM3/3v/3L/3E Series MCCB

**Size of fixed type back-panel**




Fixed type back-panel (horizontal)
HDM3v-630b




Fixed type back-panel (horizontal)
HDM3v-800

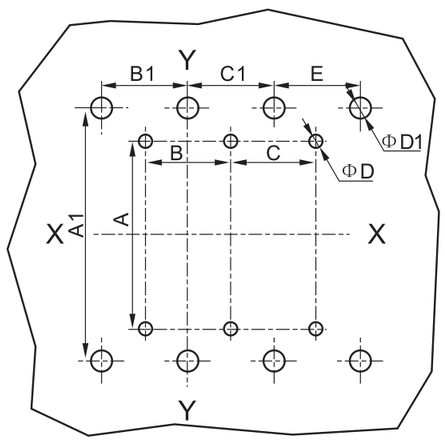
| Product Model HDM3v- | Dimension position | Fixed type back-panel dimensions table | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | H1 | H2 | H3 | H4 | H5 | D | W | T |
| HDM3v-630b | Line side | 52.5 | 75 | 86.5 | 108.5 | 20 | 16 | 35 | 10 |
| | Load side | 51.5 | 74 | 85.5 | | | | | |
| HDM3v-800 | Line side | 71 | 95 | - | - | 27 | 12.5 | 34 | 16 |
| | Lode side | 66 | 90 | - | - | | | | |





# HDM3/3v/3L/3E Series MCCB

**Fixed rear installation hole dimensions**



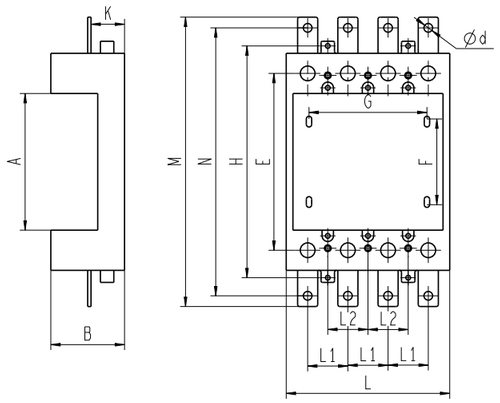

Note: X-X and Y-Y is the center of the three-pole breaker

| Product type | Poles | A | B | C | ϕD | A1 | B1 | C1 | E | ϕD1 |
|---|---|---|---|---|---|---|---|---|---|---|
| HDM3-100L/S | 3 | 111 | 25 | / | 4.5 | 116 | 25 | 25 | / | 12 |
| | 4 | | | 25 | | | | | 25 | |
| HDM3-100 | 3 | 129 | 30 | / | 5 | 132 | 30 | 30 | / | 12 |
| | 4 | | | 30 | | | | | 30 | |
| HDM3-160/250<br>HDM3E-125/250 | 3 | 126 | 35 | / | 5.5 | 145 | 35 | 35 | / | 15 |
| | 4 | | | 35 | | | | | 35 | |
| HDM3-400/630 | 3 | 215 | 44 | / | 6.5 | 225 | 48 | 48 | / | 18 |
| | 4 | | | / | | | | | 48 | |
| HDM3E-400/630 | 3 | 215 | 44 | / | 6.5 | 225 | 48 | 48 | / | 32 |
| | 4 | | | / | | | | | 48 | |
| HDM3v-630b | 3 | 200 | 58 | / | 6.2 | 222 | 58 | 58 | / | 40 |
| | 4 | | | 58 | | | | | 58 | |
| HDM3v-800 | 3 | 243 | 70 | / | 7.2 | 243 | 70 | 70 | / | 40 |
| | 4 | | | 70 | | | | | 70 | |
| HDM3E-800 | 3 | 243 | 70 | / | 7.5 | 243 | 70 | 70 | / | 40 |
| | 4 | | | 70 | | | | | 70 | |
| HDM3-1600 | 3 | 378 | 70 | / | 6.2 | / | / | / | / | / |

# HDM3/3v/3L/3E Series MCCB

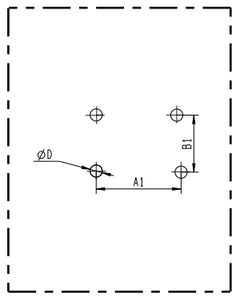
## Plug-in MCCB mounting dimension

**Front connection(mm)**




| Product type | A | B | E | F | G(3P/4P) | H | L(3P/4P) | L1 | L2 | M | N | K | ϕd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDM3-100L/S | 91.5 | 48.2 | 111 | 60 | 50/75 | 145 | 75/100 | 25 | 25 | 190 | 173 | 22.5 | 6 |
| HDM3-100T/N/F | 100.5 | 56.2 | 132 | 67 | 60/90 | 170 | 90/120 | 30 | 30 | 216 | 198 | 25 | 6.5 |
| HDM3-160/250<br>HDM3E-125/250 | 108.5 | 73.2 | 144 | 74 | 70/105 | 191 | 105/140 | 35 | 35 | 243 | 223 | 37.5 | 8.5 |

**Plug-in front hot position drawing**



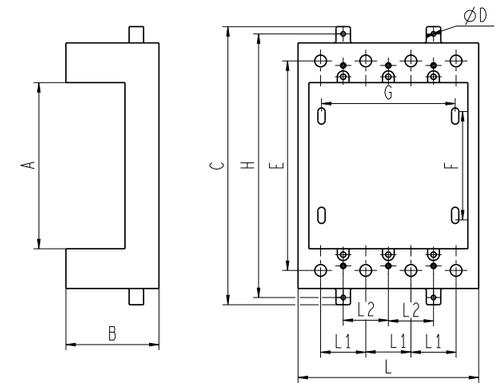

| Product type | Number of poles | A1 | B1 | ϕD |
|---|---|---|---|---|
| HDM3-100L/S | 3 | 50 | 60 | 5.5 |
| | 4 | 75 | | |
| HDM3-100T/N/F | 3 | 60 | 67 | 6.5 |
| | 4 | 90 | | |
| HDM3-160/250<br>HDM3E-125/250 | 3 | 70 | 74 | 6.5 |
| | 4 | 105 | | |



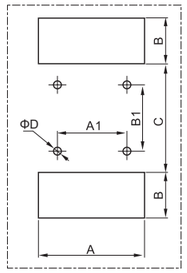


# HDM3/3v/3L/3E Series MCCB

**Rear connection(mm)**

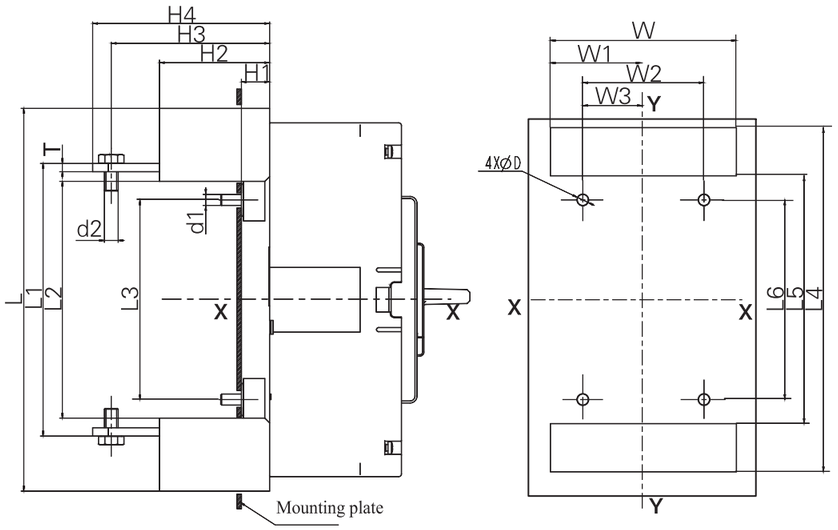



| | A | B | C | ϕD | E | F | G(3/4P) | H | L(3/4P) | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HDM3-100L/S | 91.5 | 48.2 | 154 | M3 | 111 | 60 | 50/75 | 145 | 75/100 | 25 | 25 |
| HDM3-100T/N/F | 100.5 | 56.2 | 180 | M4 | 132 | 67 | 60/90 | 170 | 90/100 | 30 | 30 |
| HDM3-160/250<br>HDM3E-125/250 | 108.5 | 73.2 | 203 | M4 | 144 | 74 | 70/105 | 191 | 105/140 | 35 | 35 |
| HDM3-400/630<br>HDM3E-400/630 | 170 | 60 | / | / | 225 | 130 | 60/108 | / | 152/200 | 48 | 44 |
| HDM3E-800 | 187 | 125 | 342 | M5 | 243 | 143 | 140/210 | 328 | 210/280 | 70 | 70 |




| Product type | Poles | A | A1 | B | B1 | C | ϕD |
|---|---|---|---|---|---|---|---|
| HDM3-100L/S | 3 | 79 | 50 | 30 | 60 | 90 | 5.5 |
| | 4 | 104 | 75 | | | | |
| HDM3-100T/N/F | 3 | 94 | 60 | 40 | 67 | 90 | 6.5 |
| | 4 | 124 | 90 | | | | |
| HDM3-160/250<br>HDM3E-125/250 | 3 | 110 | 70 | 45 | 74 | 100 | 6.5 |
| | 4 | 145 | 105 | | | | |
| HDM3-400/630<br>HDM3E-400/630 | 3 | 157 | 88 | 60 | 145 | 170 | 8.5 |
| | 4 | 205 | 132 | | | | |
| HDM3E-800 | 3 | 212 | 140 | 64 | 143 | 185 | 11 |
| | 4 | 282 | 210 | | | | |

# HDM3/3v/3L/3E Series MCCB




Split type HDM3v-630b/800




Mounting hole

| Product Model HDM3v- | Pole number | Mounting hole size | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H1 | H2 | H3 | L3 | L2 | L1 | L | T | D1 | D2 | W | L5 | L4 | W1 | W3 | L6 | W2 | ΦD |
| HDM3v-630b | 3P | 20 | 60 | 89.5 | 112 | 157 | 232 | 285 | 11.5 | M8 | M12 | 185 | 152 | 280 | 92.5 | 50 | 112 | 100 | 9.5 |
| | 4P | | | | | | | | | | | 247 | | | | | | 159 | |
| HDM3v-800 | 3P | 19.3 | 56 | 128 | 143 | 188 | 262 | 262 | 16 | M8 | M12 | 214 | 185 | 300 | 107 | 70 | 143 | 140 | 9.5 |
| | 4P | | | | | | | | | | | 284 | | | | | | 210 | |

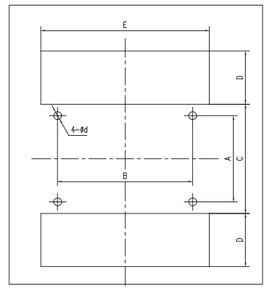


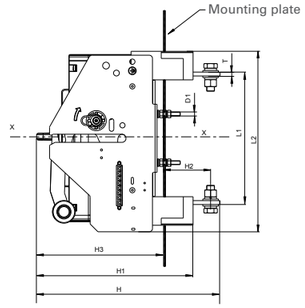


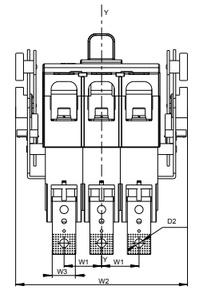
# HDM3/3v/3L/3E Series MCCB

## Draw out mounting dimension

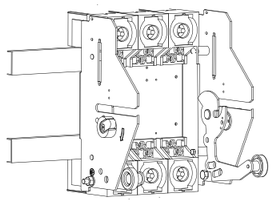
**Rear connection(mm)**

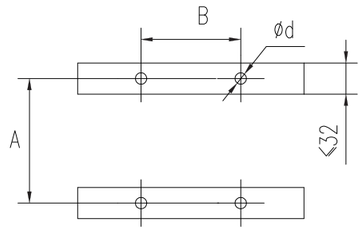



| Product type | Poles | Installation Dimensions | | | | | | Dimensions | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | φd | L1 | L2 | H | H1 | H2 | H3 | W1 | W2 | W3 | φD1 | φD2 |
| HDM3-400 HDM3E-400 | 3 | 140 | 96 | 178 | 47 | 147 | 7 | 203 | 269 | 281 | 240 | 77 | 189 | 48 | 223 | 30 | 6.2 | 11 |
| | 4 | 140 | 144 | 178 | 47 | 195 | 7 | 203 | 269 | 281 | 240 | 77 | 189 | 48 | 271 | 30 | 6.2 | 11 |
| HDM3-630 HDM3E-630 | 3 | 140 | 96 | 178 | 47 | 147 | 7 | 207 | 269 | 281 | 240 | 77 | 189 | 48 | 223 | 30 | 6.2 | 11 |
| | 4 | 140 | 144 | 178 | 47 | 195 | 7 | 207 | 269 | 281 | 240 | 77 | 189 | 48 | 271 | 30 | 6.2 | 11 |
| HDM3v-630b | 3 | 128 | 116 | 163 | 58 | 189 | 7 | 195 | 282 | 326 | 282 | 92 | 204 | 58 | 253 | 40 | 6 | 13 |
| | 4 | | 174 | | | 247 | | | | | | | | | 311 | | | |
| HDM3v-800 | 3 | 131 | 140 | 170 | 77 | 213 | 7 | 242 | 315 | 305 | 255 | 73 | 210 | 70 | 288 | 40 | 6 | 13.5 |
| | 4 | | 210 | | | 283 | | | | | | | | | 358 | | | |
| HDM3E-800 | 3 | 131 | 140 | 170 | 77 | 213 | 7 | 241 | 317 | 302 | 250 | 73 | 208 | 70 | 289 | 40 | 6.2 | 13 |
| | 4 | 131 | 210 | 170 | 77 | 283 | 7 | 241 | 317 | 302 | 250 | 73 | 208 | 70 | 359 | 40 | 6.2 | 13 |



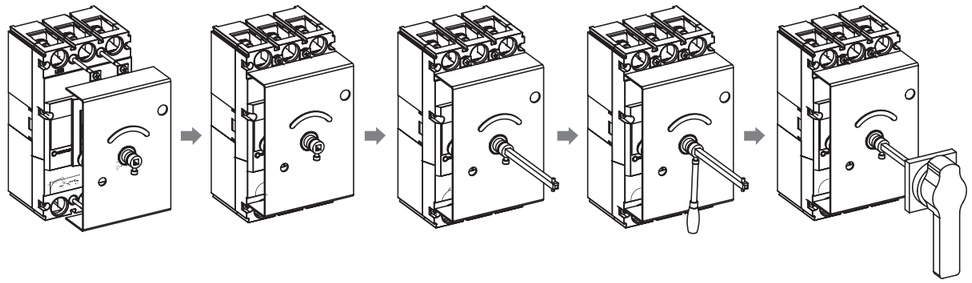



| Product type | Poles | Installation Dimensions | | |
|---|---|---|---|---|
| | | A | B | φd |
| HDM3-400 HDM3E-400 | 3 | 140 | 96 | 7 |
| | 4 | 140 | 144 | 7 |
| HDM3-630 HDM3E-630 | 3 | 140 | 96 | 7 |
| | 4 | 140 | 144 | 7 |
| HDM3E-800 | 3 | 131 | 140 | 7 |
| | 4 | 131 | 210 | 7 |

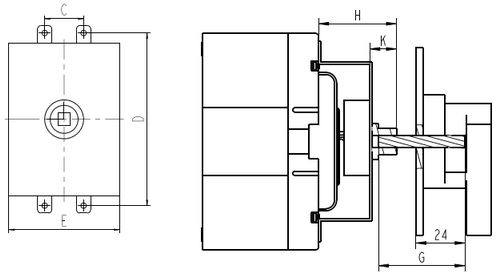
# HDM3/3v/3L/3E Series MCCB

## Rotary handle dimension(HDM3/HDM3v-100~800,HDM3L-125~630,HDM3E-125~800)

**Handle operation mechanism installation**

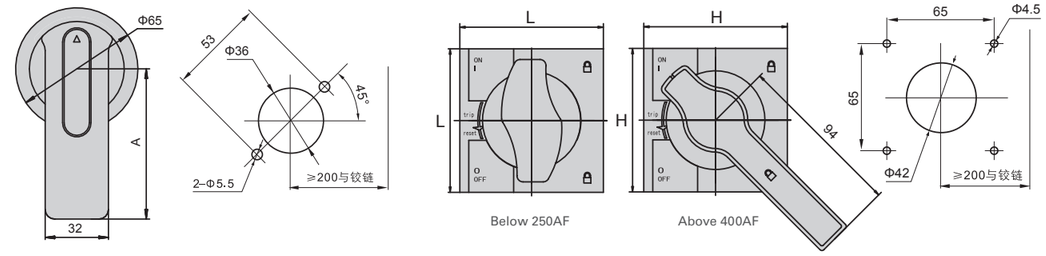


**Mounting with MCCB dimensions(mm)**




| Product type | C | D | E | H | K | G-direct handle | G-extended handle |
|---|---|---|---|---|---|---|---|
| HDM3-100L/S | 25 | 111 | 75 | 54 | 20 | 40 | 150 |
| HDM3-100T/N/F HDM3L-125 | 30 | 129 | 92 | 57 | 20 | 40 | 150 |
| HDM3-160/250 HDM3L-160/250 | 35 | 143 | 100 | 54 | 20 | 40 | 150 |
| HDM3E-125/250 | 35 | 143 | 100 | 49 | 20 | 40 | 150 |
| HDM3-400/630 HDM3L-400 | 44 | 215 | 150 | 78 | 20 | 40 | 150 |
| HDM3E-400/630 | 44 | 215 | 140 | 76 | 20 | 40 | 150 |
| HDM3v-630b | 58 | 200 | 182 | 155 | 20 | 40 | 150 |
| HDM3v-800 | 70 | 243 | 208 | 175 | 20 | 40 | 150 |
| HDM3E-800 | 70 | 243 | 210 | 76 | 20 | 40 | 150 |

**Installation hole dimensions**




Round handle

Square handle

| Product type | Round handle | Square handle | |
|---|---|---|---|
| | A | L | H |
| HDM3-100L/S | 65 | 80 | 80 |
| HDM3-100T/N/F HDM3L-125 | 65 | 80 | 80 |
| HDM3-160/250 HDM3E-125/250 HDM3L-160/250 | 65 | 80 | 80 |
| HDM3-400/630 HDM3E-400/630 HDM3L-400 | 95 | 80 | 80 |
| HDM3v-630b HDM3v-800 HDM3E-800 | 95 | 80 | 80 |

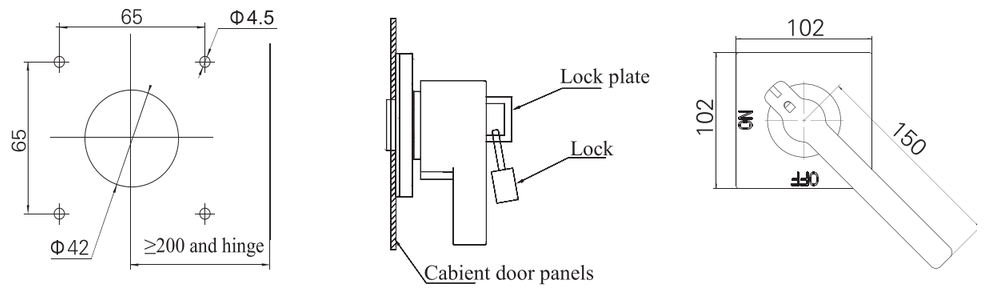




# HDM3/3v/3L/3E Series MCCB

## Rotary handle dimension (HDM3E-1600)

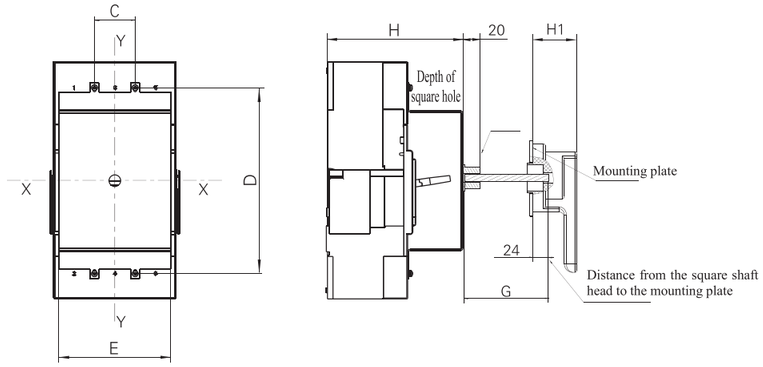
- Optional handle style and size




Dimensions of the mounting hole for handle cabinet door

- Features of the operating handle:
  When the circuit breaker is at the Closed state, the cabinet door cannot be opened;
  When at the Closed or Open state, pull the lock plate marked with on the square operating handle for locking (lock with a diameter ranged 5 to 8m self-provided by the user).

- Outline dimensions of manual operating mechanism




| Model HDM3- | A* | C | D | E | H | G*direct manual operating mechanism | G* extended manual operating mechanism (by default) | Height of round handle H1 |
|---|---|---|---|---|---|---|---|---|
| 1600F/N | - | 70 | 320 | 193 | 236 | 40 | 150 | 91 |

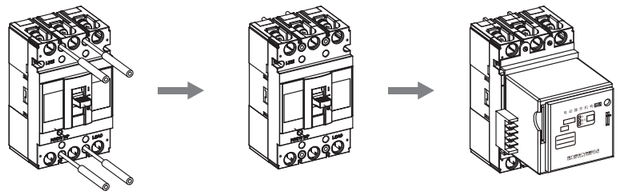
⚠

G* For other length to be customized, please contact the manufacturer.

# HDM3/3v/3L/3E Series MCCB

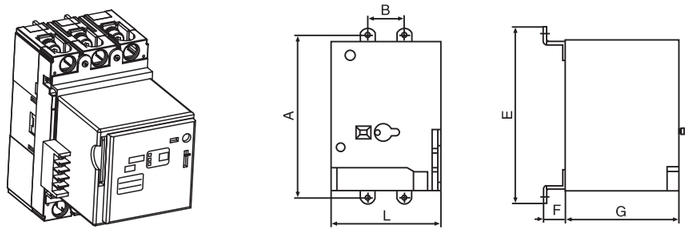
## Motor dimensions(HDM3/HDM3v-100~800,HDM3L-125~800,HDM3E-125~800)

**Installation of electric operating mechanism**



After tripping of the breaker with an electrically operated mechanism, the electrically operated mechanism must be opened first before closed.

**Mounting with MCCB dimensions(mm)**




| Product type | A | B | E | F | G | L |
|---|---|---|---|---|---|---|
| HDM3-100L/S | 111 | 25 | 120 | 15 | 79 | 74 |
| HDM3-100T/N/F<br>HDM3L-125 | 129 | 30 | 140 | 16 | 77 | 90 |
| HDM3-160/250<br>HDM3L-160/250 | 126 | 35 | 140 | 17 | 77 | 90 |
| HDM3E-125/250 | 126 | 35 | 140 | 12 | 77 | 90.5 |
| HDM3-400/630<br>HDM3E-400/630<br>HDM3L-400 | 215 | 44 | 232 | 32 | 115 | 130 |
| HDM3v-800<br>HDM3E-800 | 243 | 70 | 260 | 31 | 115 | 130 |

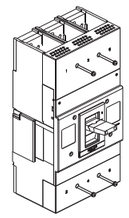




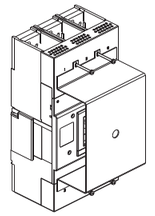
# HDM3/3v/3L/3E Series MCCB

## Motor dimensions(HDME-1600)

- Manual operating mechanism installation method



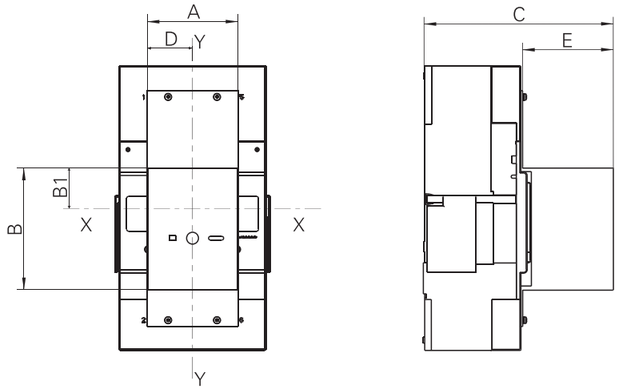
Step1
Remove four screws from the cover of circuit breaker



Step 2
Insert the handle of thecircuit breaker into the manual operating mechanism, and tighten the screw; Insert the square shaft, and tighten the screw with a screwdriver; assemble the handle and check whether the product can be closed and opened normally.

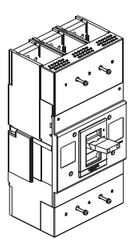
**Electric operating mechanism**

- Electric operating mechanism installation dimensions

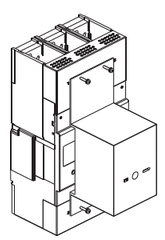



| Model HDM3- | A | B | B1 | C | D | E |
|---|---|---|---|---|---|---|
| 1600F/N | 131 | 177 | 63 | 281 | 65.5 | 141 |

- Installation method



Step1
Turn the handle to the Open position



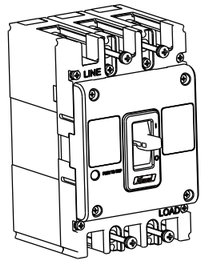
Step 2
Install the electric operating mechanism,and tighten the screw and nut

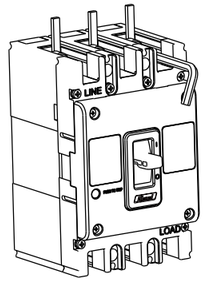
⚠ Attention

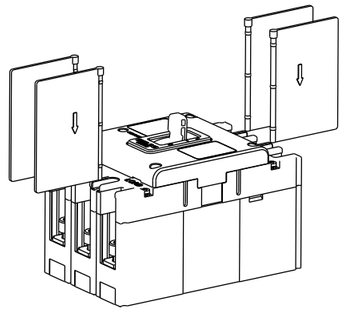
Check whetehr the handle can be inserted into the electric operating mechanism before operation.

# HDM3/3v/3L/3E Series MCCB

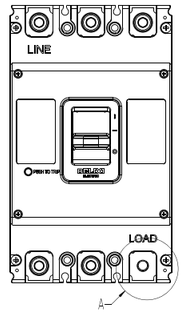
## Terminal Connection Dimensions (mm)

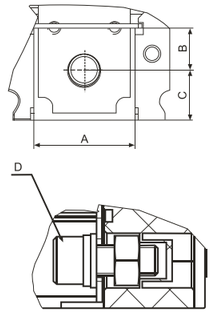


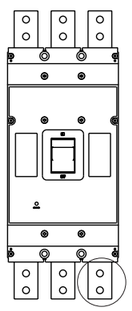



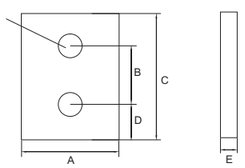



### Connection terminal and torque table









| Product type | A | B | C | D | Torque(N.M) |
|---|---|---|---|---|---|
| HDM3-100L/S | 16 | 7.5 | 7 | M6 | 4~8 |
| HDM3-100T/N/F<br>HDM3L-125 | 18 | 7.5 | 9 | M8 | 4~8 |
| HDM3-160/250<br>HDM3L-160/250 | 25 | 12.5 | 9.5 | M8 | 9.5~10.5 |
| HDM3E-125/250 | 25.5 | 12 | 10 | M8 | 9.5~10.5 |
| HDM3-400/630<br>HDM3v-630b<br>HDM3L-400 | 32 | 14 | 16 | M10 | 19.5~20.5 |
| HDM3E-400/630 | 32 | 13 | 16 | M10 | 19.5~20.5 |
| HDM3v-800<br>HDM3L-630 | 44.5 | 12 | 16 | M12 | 29.5~30.5 |
| HDM3E-800 | 45.5 | 16.8 | 18.5 | M12 | 29.5~30.5 |

### Connecting conductor ($mm^2$)

| Rated current A | 10 | 16<br>20 | 25 | 32 | 40<br>50 | 63 | 80 | 100 | 140 | 160 | 180<br>200<br>225 | 250 | 315 | 400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cross-section of conductor Size: $mm^2$ | 1.5 | 2.5 | 4 | 6 | 10 | 16 | 25 | 35 | 50 | 70 | 95 | 120 | 185 | 240 |

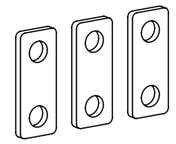
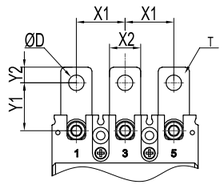
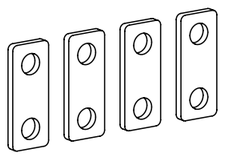
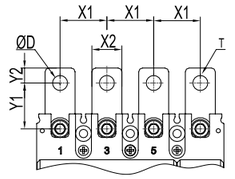
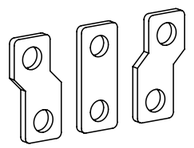
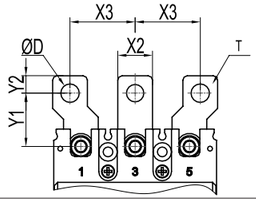
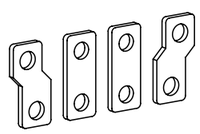
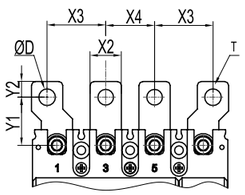
| Rated current A | 500 | 630 | 700<br>800 | 1000 | 1250 | 1600 |
|---|---|---|---|---|---|---|
| Cross-section of conductor Size: $mm^2$ | 150×2 | 185×2 | 240×2 | - | - | - |
| Copper busbar Size: $mm^2$ | 150×2 | 200×2 | 250×2 | 300×2 | 400×2 | 500×2 |



LOW VOLTAGE DISTRIBUTION

HDM3/3v/3L/3E Series MCCB

## Expanding Terminal Information

| Outside view | Dimension(mm) | Poles | QTY |
|---|---|---|---|
|  |  | 3 | 3 |
|  |  | 4 | 4 |
|  |  | 3 | 3 |
|  |  | 4 | 4 |

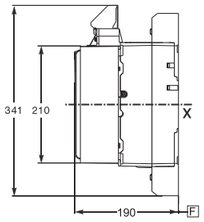
| Frame Size | X1 | X2 | X3 | X4 | Y1 | Y2 | OD | T |
|---|---|---|---|---|---|---|---|---|
| HDM3-100L/S<br>HDM3v-125 2P | 25 | 16 | 30 | 25 | 24.5 | 8 | 8 | 3 |
| HDM3-100T/N/F<br>HDM3L-125 | 30 | 16 | 35 | 30 | 24.5 | 8 | 8 | 3 |
| HDM3-160/250<br>HDM3v-250 2P<br>HDM3L-160/250<br>HDM3E-125/250 | 35 | 20 | 40 | 35 | 45.5 | 11.5 | 12.5 | 6 |
| HDM3-400<br>HDM3L-400<br>HDM3E-400 | 48 | 29.5 | 58.5 | 48 | 42.5 | 16.2 | 12.5 | 8 |
| HDM3-630<br>HDM3E-630 | 48 | 30 | 58.5 | 48 | 42.5 | 16 | 12.5 | 12 |
| HDM3v-630b | 58 | 40 | 68 | 58 | 86 | 20 | 13 | 10 |
| HDM3v-800<br>HDM3L-630<br>HDM3E-800 | 70 | 44 | - | - | 71.5 | 15 | 14 | 10 |

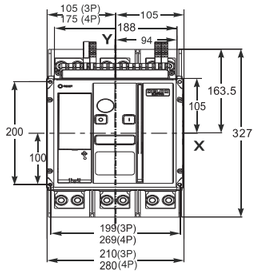
# HDM3/3v/3L/3E Series MCCB

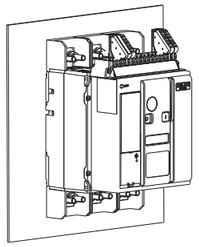
## Dimensions and Connection HDM3E-1600

**Fixed MCCB mounting dimension (mm)**

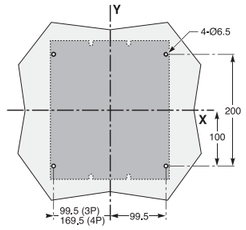
Unit:mm

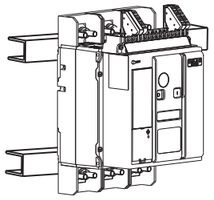


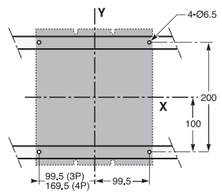



Installed on plate



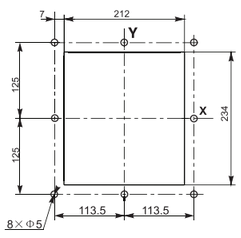



Installed on din rail

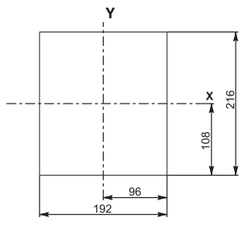


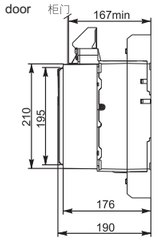

Note:X and Y are plane of symmetry of 3 pole breaker Z is back plane of breaker.

With doorframe:
Holes dimension on door




Without doorframe:
Holes dimension on door



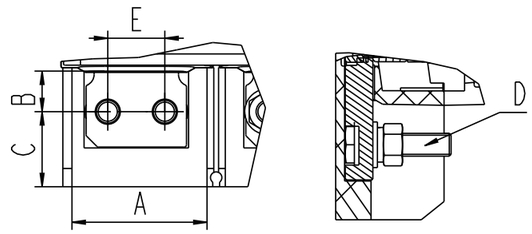







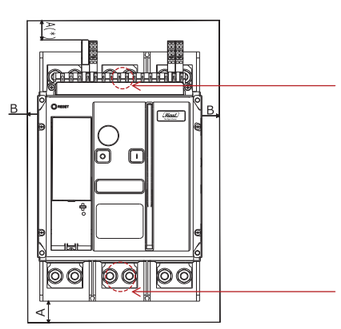

HDM3/3v/3L/3E Series MCCB

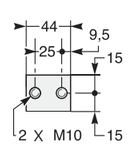
**Terminal connection dimensions (mm)**



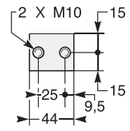

| Product type | A | B | C | D | E | Torque(N.M) |
|---|---|---|---|---|---|---|
| HDM3E-1600 | 59 | 17.2 | 32.8 | M10 | 25 | 50 |

**Terminal and busbar dimensions (mm)**

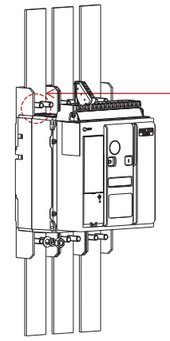


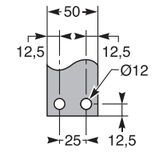




The size of top terminal




The size of bottom terminal






The size of busbar

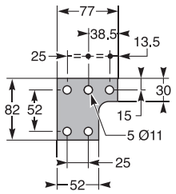
| Max current | Ti:40℃ the number of busbar | | Ti:50℃ the number of busbar | | Ti:60℃ the number of busbar | |
|---|---|---|---|---|---|---|
| | 5mm Thickness | 10mm Thickness | 5mm Thickness | 10mm Thickness | 5mm Thickness | 10mm Thickness |
| 1000 | 3b.50x5 | 1b.63 x 10 | 3b.50x5 | 2b.50 X 10 | 3b.63x5 | 2b.50 x 10 |
| 1250 | 3b.50x5 | 2b.40 x 10 | 3b.50x5 | 2b.50 X 10 | 3b.63x5 | 2b.50 x 10 |
| | 2b.80x5 | 2b.40 x 10 | 2b.80x5 | | | |
| 1600 | 3b.80x5 | 2b.63 x 10 | 3b.80x5 | 2b.63 x 10 | 3b.80x5 | 2b 50 x 10 |

# HDM3/3v/3L/3E Series MCCB

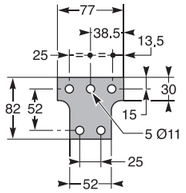
**Expending terminal dimensions (mm)**

Unit:mm

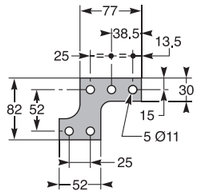
Extension terminal for A phase or B phase of 4 pole



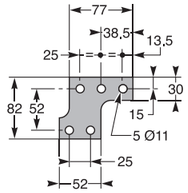

Extension terminal for B phase of 3 pole

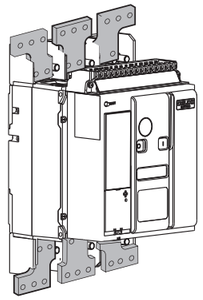


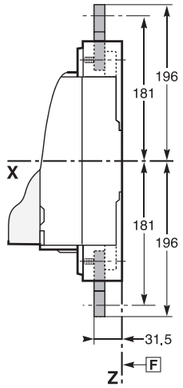

Extension terminal for N phase or C phase of 4 pole

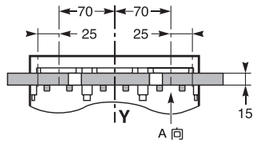



Extension terminal for A phase or C phsae of 3 pole



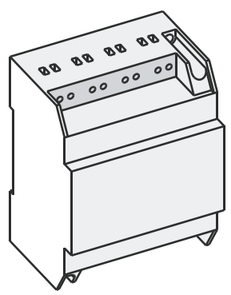


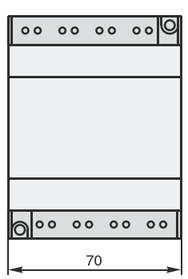



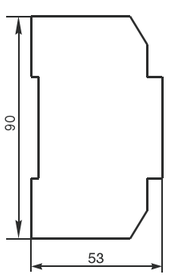




**Dimensions of power module (35mm Dim rail fitted)**







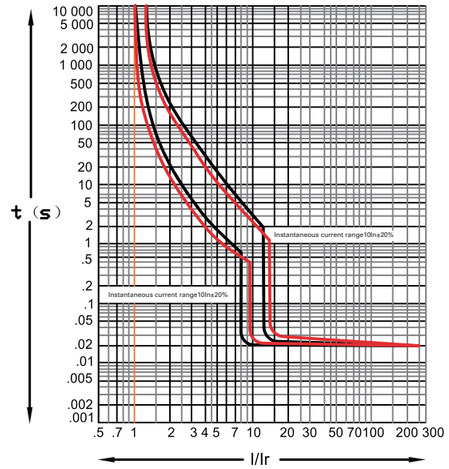



# HDM3/3v/3L/3E Series MCCB

## Tripping curve

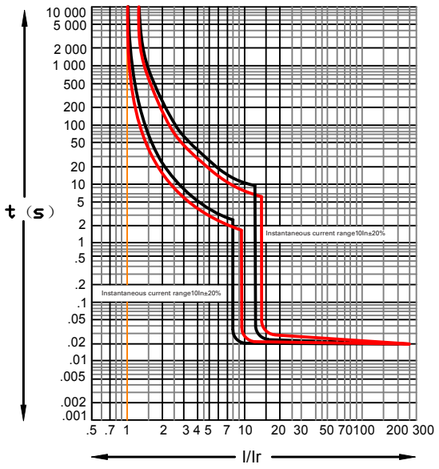
### HDM3-100L/S

HDM3-100L/S 10~100A
Black line:power distribution protection,
red line:motor protection;



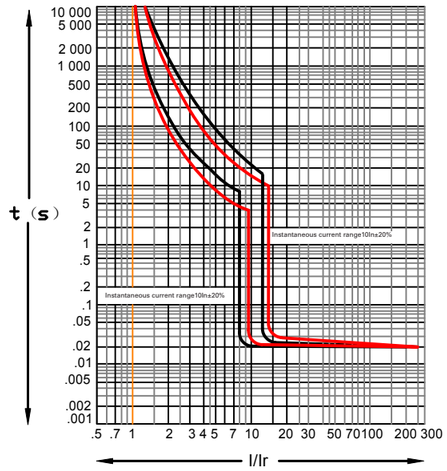

### HDM3-100T/N/F

HDM3-100T/N/F 40A-100A
Black line: power distribution protection ,
red line: motor protection;



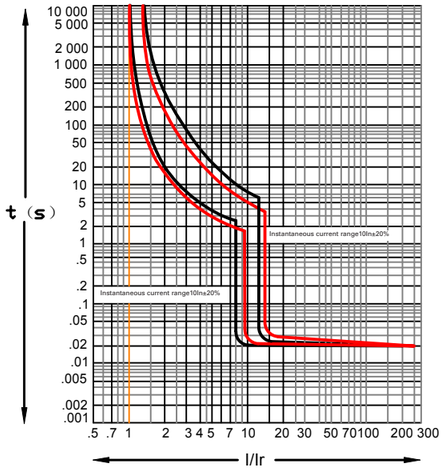

### HDM3-160/250

Black line: power distribution protection ,
red line: motor protection;




### HDM3-400

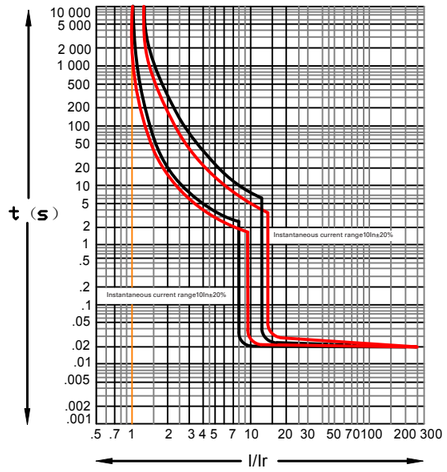
Black line: power distribution protection ,
red line: motor protection;



# HDM3/3v/3L/3E Series MCCB

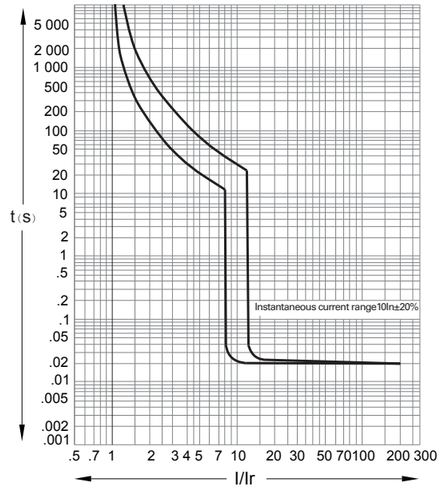
### HDM3-630

Black line: power distribution protection ,
red line: motor protection;

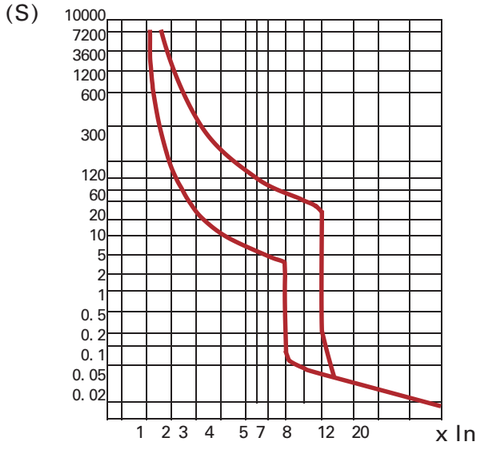



### HDM3-800A

HDM3-800A 630A
**For power distribution**




### Trip curve HDM3 1600

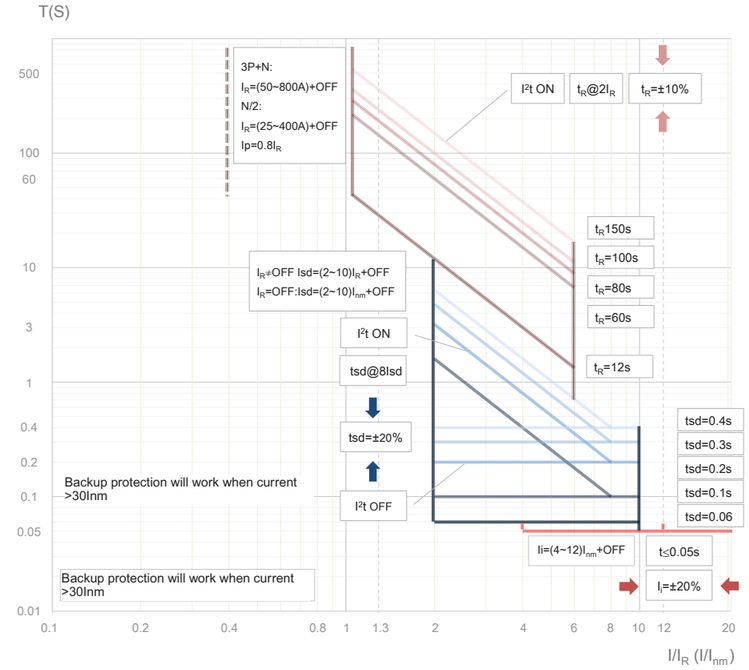






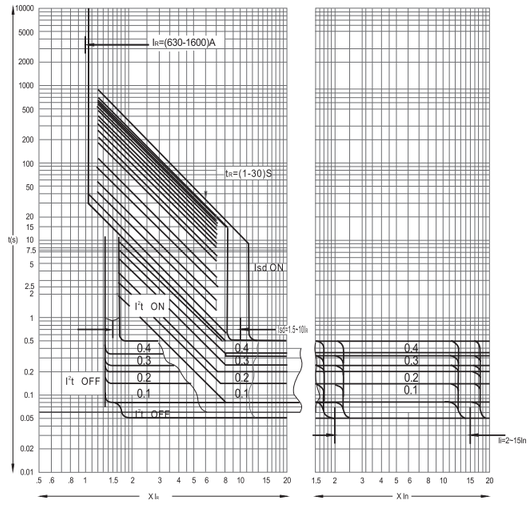

# HDM3/3v/3L/3E Series MCCB

### HDM3E(125~800AF) Tripping curve

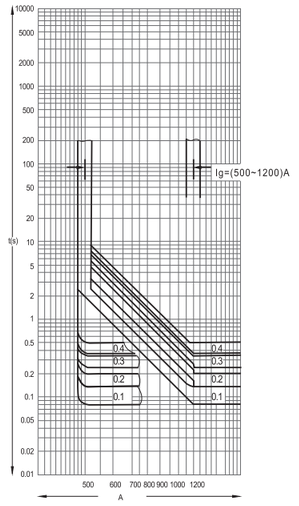



### HDM3E-1600AF Tripping characteristic

**Triple protection**




**Underground protection**



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**July 2021**