

# Low-voltage Products

Himel International Catalogue



*The Right Choice!*

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# HDM3E Molded Case Circuit Breaker(Electronic)

## Product Features

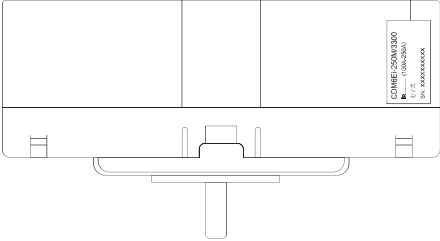
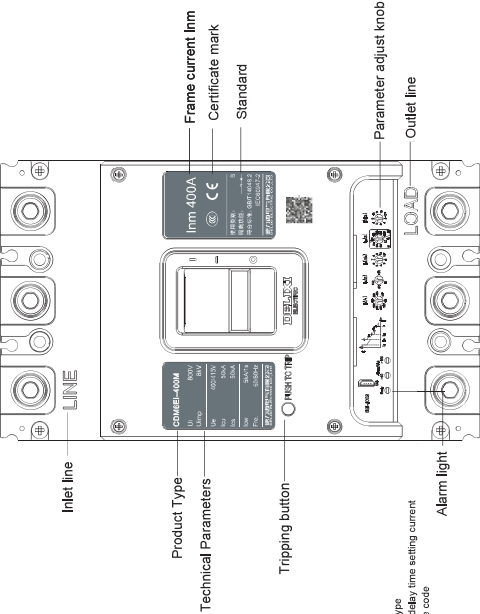
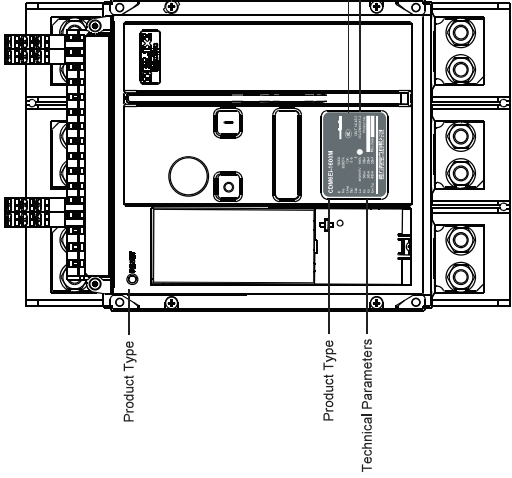
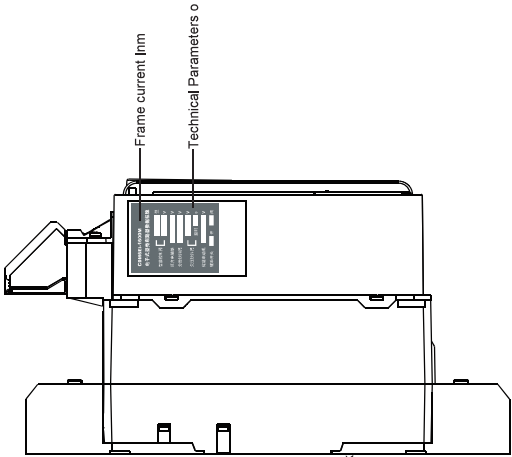
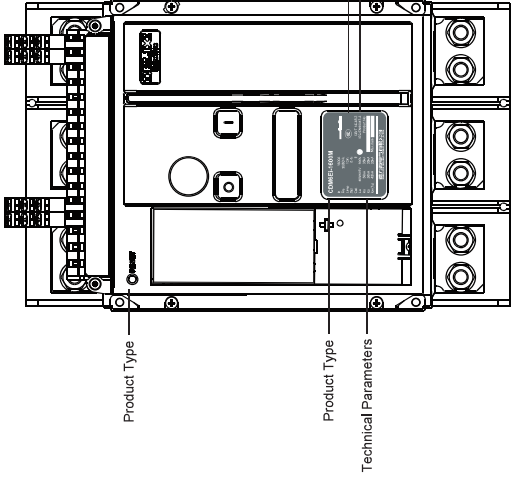
Standard:IEC/EN 60947-2

|                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Product Features</b><br>Standard <ul style="list-style-type: none"> <li>• IEC 60947-2</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                                                      | <b>Using Environment</b><br>Pollution degree: Class III<br>IEC 60947-1 and IEC 60664-1 standard defined environment(industry environment)<br>Rated working voltage to the ground is 600V, available for environment IV(power inlet line)                                                                                                                                                                                                                                                  |
|                                                                                      | <b>Wet and heat resistance</b><br>Dry cold,Dry heat andWet heat                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                      | <b>Environment temperature</b> <ul style="list-style-type: none"> <li>• Operating temperature: -5 degree-50 degree, average temperature don't exceed 35 degree in 24h. (Note: when you need to use this product in -35--+5 C and +50--+70 C, please refer to derating Parameter table)</li> <li>• Storage temperature-40 C--+70 C</li> </ul>                                                                                                                                              |
|                                                                                      | <b>Altitude</b> <ul style="list-style-type: none"> <li>• Normal installation site do not exceed 2000m</li> <li>• If altitude exceeds 2000m,must consider change factors of dielectric strength and air temperature drop. (Suggest breaking capacity derating 25%, rated impulse withstand voltage derating (12 kV reduce to 8kV, 8kV to 6kV); Rated insulation voltage derating(1000V reduce to 800V, 800V reduce to 690V)</li> </ul>                                                     |
|  | <b>Humidity</b><br>Normal operation conditions: <ul style="list-style-type: none"> <li>• If ambient air temperature is +40 C, the relative atmosphere humidity do not exceed 50%. The product can be used at high relative humidit if the temperature is lower.</li> <li>• The wettest month of average relative humidity is 90%.</li> <li>• The condensation impact on the product surface shall be considered.</li> </ul>                                                               |
|                                                                                      | <b>Reliable contact indicate with isolating function</b> <ul style="list-style-type: none"> <li>• HDM3E series complies with the isolation defined in IEC 60947-2</li> <li>• The isolated location show O(OFF)</li> <li>• The operating handle can indicate "OFF", when the contacts are really opened.</li> <li>• Rotate handle and motor mechanism can not change the reliability of contact indicate system. Through testing,the isolating function must safe and reliable.</li> </ul> |
|                                                                                      | <b>Protection Class</b> <ul style="list-style-type: none"> <li>• Circuit breaker body: IP 20</li> <li>• Circuit breaker installed in switch cabinet: <ul style="list-style-type: none"> <li>With toggle handle: IP 40</li> <li>With motor mechanism: IP 40</li> </ul> </li> </ul>                                                                                                                                                                                                         |

# HDM3E Molded Case Circuit Breaker(Electronic)

## Nameplate Description

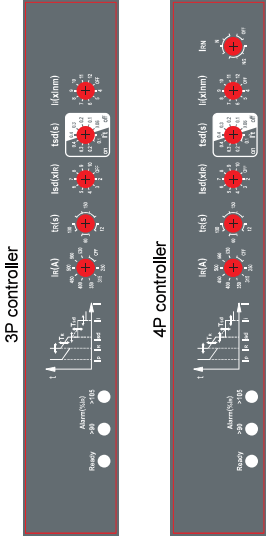
Standard:IEC/EN 60947-2

|                                                                                    |                                                                                     |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  | <b>Nameplate Description</b>                                                        |
|                                                                                    |    |
|                                                                                    |  |
|                                                                                    |    |
|                                                                                    |  |



HDM3E Molded Case Circuit Breaker(Electronic)  
Controller Parameters(125-800AF)  
Standard:IEC/EN 60947-2

HDM3E series controller function and features  
HDM3E-125~800



Controller Description

I<sub>k</sub> :Overload long delay setting time

I<sub>sd</sub> :Short-circuit short delay setting time

I<sub>h</sub> :Short-circuit instantaneous setting current

Ready/Run Light

> 90%I<sub>k</sub> :pre-alarm light

> 105%I<sub>k</sub> :Overload alarm light

LSI three section protection curve

1) Overload long delay setting current I<sub>k</sub>

Adjust I<sub>k</sub> 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 <sub>k</sub> |                    |                    |                    |                    |
| I <sub>k</sub> (A)                                  | I <sub>k</sub> (A) | I <sub>k</sub> (A) | I <sub>k</sub> (A) | I <sub>k</sub> (A) |
|                                                     |                    |                    |                    |                    |

HDM3E Molded Case Circuit Breaker(Electronic)

Controller Parameters(125-800AF)

Standard: IEC/EN 60947-2

5) Short-circuit instantaneous setting current  $I_i$  ( $\times I_{nm}$ )

$I_i$  ( $\times I_{nm}$ )



|                                                                       |                            |                                                     |
|-----------------------------------------------------------------------|----------------------------|-----------------------------------------------------|
| Short-circuit instantaneous setting current $I_i$ ( $\times I_{nm}$ ) | HDM3E-125/250 /400/630/600 | (4, 5, 6, 7, 8, 9, 10, 11, 12, OFF) $\times I_{nm}$ |
|-----------------------------------------------------------------------|----------------------------|-----------------------------------------------------|

6) Neutral phase setting protection  $I_{n1}$  ( $\times I_{nm}$ )



Setting current  $I_{n1}$  value selected knob is  $\times I_{nm}$ . 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 instantaneous setting value 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  $I_{n1}$  is OFF, controller will automatically use the basic reference(nm) current as the neutral phase protection

7) Controller 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 | $I < 0.9 I_n$             |        |
| Pre-alarm  | Blink      | Blink      | Extinguish | $0.9 I_n \leq I \leq I_n$ |        |
| Tripping   | Extinguish | Extinguish | Extinguish | $1.05 I_n \sim 4 I_n$     |        |

- Note:
1.  $I$  is current of main circuit,  $I_n$  is overload long time delay setting current value.
  2. When yellow light blink, that means intelligent controller had worked on overload long time delay, setting parameters on the controller board is unavailable in this process.

HDM3E Molded Case Circuit Breaker(Electronic)

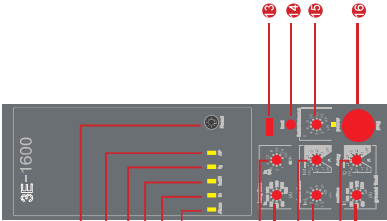
Controller Parameters(1600AF)

Standard: IEC/EN 60947-2

3E Controller Function and Characteristics  
3E-1600( Basic type)

Indicate and button description

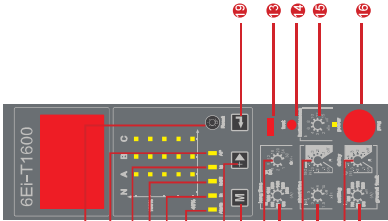
- 1 Alarm indicate light
- 2 Long time delay tripping indicate
- 3 Short time delay or instantaneous tripping indicate
- 4 Earthing tripping indicate
- 5 High level protection
- 6 Reset button
- 7 Long time delay current setting  $I_n$
- 8 Long time delay tripping delay  $t_{de}$
- 9 Short time delay  $I_{sd}$
- 10 Short time delay tripping delay  $t_{sd}$
- 11 Earthing fault tripping  $I_g$
- 12 Earthing fault tripping delay  $t_g$
- 13 Lock position
- 14 Testing button
- 15 Instantaneous tripping current
- 16 Testing connection port



3E-T1600( Communication 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  $I_n$
- 8 Long time delay tripping delay  $t_{de}$
- 9 Short time delay  $I_{sd}$
- 10 Short time delay tripping delay  $t_{sd}$
- 11 Earthing fault tripping  $I_g$
- 12 Earthing fault tripping delay  $t_g$
- 13 Lock position
- 14 Testing button
- 15 Instantaneous tripping current
- 16 Testing connection port
- 17 Setting button /Switch button
- 18 PgDn or PgUp button
- 19 Confirmation button



Note: 7 9 10 12 15 only stall indicate don't adjust.

HDM3E Molded Case Circuit Breaker(Electronic)

Controller Parameters(1600AF)

Standard: IEC/EN 60947-2

|                      |          |
|----------------------|----------|
| Function Description |          |
| 3E-1600              | 3E-T1600 |



|                        |                                           |                                           |
|------------------------|-------------------------------------------|-------------------------------------------|
| Protection Function    | Long-time delay protection $I_{\Delta t}$ | Long-time delay protection $I_{\Delta t}$ |
|                        | Short-time delay protection $I_{sd}$      | Short-time delay protection $I_{sd}$      |
|                        | Instantaneous protection $I_i$            | Instantaneous protection $I_i$            |
|                        | Earth leakage protection $I_g$            | Earth leakage protection $I_g$            |
|                        | MCR protection                            | MCR protection                            |
|                        | HS/SC protection                          | HS/SC protection                          |
|                        | Current unbalance                         | Current unbalance                         |
|                        | Maximum required current                  | Maximum required current                  |
|                        | Earth leakage                             | Earth leakage                             |
|                        |                                           |                                           |
| Measure Function       | Current measure                           | Current measure                           |
|                        | Voltage measure                           | Voltage measure                           |
|                        | Power measure                             | Power measure                             |
|                        | Frequency measure                         | Frequency measure                         |
|                        | Electric energy measure                   | Electric energy measure                   |
|                        |                                           |                                           |
| Miscellaneous Function | Pre-alarm                                 | Pre-alarm                                 |
|                        | Self-diagnosis function                   | Self-diagnosis function                   |
|                        | Fault history record                      | Fault history record                      |
|                        | Measure function                          | Measure function                          |
|                        | Displacement record                       | Displacement record                       |
|                        | Alarm record                              | Alarm record                              |
|                        | Clock                                     | Clock                                     |
|                        |                                           |                                           |
| Display Function       | LCD display <sup>1)</sup>                 | LCD display <sup>1)</sup>                 |
| Communication Function | Modbus                                    | Modbus                                    |
|                        |                                           |                                           |

1) LCD will freeze when environment under minus 5 degree, it will cause undisplay, but it don't affect the protection function and normal operating of circuit breakers.

HDM3E Molded Case Circuit Breaker(Electronic)

Controller Parameters(1600AF)

Standard: IEC/EN 60947-2

**Intelligent Controller 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 conform to characteristics curve  $I^2t$

- 1) Overload long time dealy protection characteristics  $I_r$

Overload long time delay protection action threshold value  
 $< 1.05 I_N$ ;  $> 2h$  inaction;  
 $\geq 1.2 I_N$ ; action delay;  
 $I_N$  current setting range: 630A、800A、900A、1000A、1250A、1400A、1500A、1600A

| Inverse time limit action characteristics |               | $I^2t = (6/N)^2 \cdot t_{I_r}$ |      |
|-------------------------------------------|---------------|--------------------------------|------|
| Setting current                           | Action time s |                                |      |
| $1.5 I_N$                                 | 16s           | 64s                            | 128s |
| $2 I_N$                                   | 9s            | 36s                            | 72s  |
| $6 I_N$                                   | 1s            | 2s                             | 4s   |

Notes: N--- Fault current divide by setting current  $I/I_N$   
 $t$ --- Fault action delay time  
 $t_{I_r}$ --- Long time delay setting value  
Action time permissible error:10%

- 2) Short-circuit short time dealy protection characteristics  $I_{sd}$

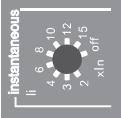
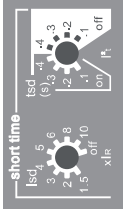
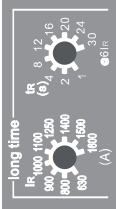
Short-circuit short time delay protection action threshold value  
 $< 0.9 I_{sd}$  inaction;  
 $\geq 1.1 I_{sd}$ ; action delay;  
 $I_{sd}$  current setting range:  $1.5 I_N$ 、 $2 I_N$ 、 $3 I_N$ 、 $4 I_N$ 、 $5 I_N$ 、 $6 I_N$ 、 $8 I_N$ 、 $10 I_N$ 、OFF

| Setting current         | Action time                                      | Action character |                           |
|-------------------------|--------------------------------------------------|------------------|---------------------------|
| $I_{sd} < 1 \leq 8 I_N$ | Inverse time limit                               | Delay time s     | $I^2t = (8 I_N)^2 t_{sd}$ |
| $I \geq 1.1 I_{sd}$     | 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         |

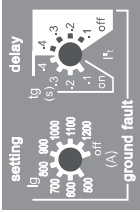
注：  $I_{sd}$ --- Short time delay current setting value  
 $I$ --- Fault current value  
 $I_{r}$ --- Long delay time current setting value  
 $t$ --- Fault action delay time  
 $t_{sd}$ --- Short time delay inverse time limit setting value  
Action time permissible error  $\pm 20\%$   
(The off of time means  $I^2t$  is inverse time limit closed, this state is fixed inverse limit, use current knob is off, that means short time delay protection function is closed.)

- 3) Instantaneous Protection Characteristics  $I_i$

Short-circuit instantaneous protection action threshold value  
 $< 0.85 I_i$  inaction;  
 $> 1.15 I_i$  action  
Instantaneous action current setting value  $2 I_N$ 、 $3 I_N$ 、 $4 I_N$ 、 $8 I_N$ 、 $10 I_N$ 、 $12 I_N$ 、 $15 I_N$ 、OFF  
Note: Action time permissible error  $\leq 50ms$ .



HDM3E Mold Case Circuit Breaker(Electronic)  
Controller Parameters(1600AF)  
Standard : IEC/EN 60947-2



4) Earthing Fault Protection Action Characteristics tg

Earthing fault protection action threshold value  
< 0.9 I<sub>g</sub> : inaction;  
≥ 1.1 I<sub>g</sub> : action delay;  
I<sub>g</sub> current setting range: 500A、600A、700A、800A、900A、1000A、1100A、1200A、OFF

tg(s) Inverse time limit Action Charater

$$t = \frac{(I_g)^2}{I^2} \times t_g$$

| Fixed time limit, returned time is minimum value | Setting time (s) | 0.1  | 0.2  | 0.3  | 0.4  |
|--------------------------------------------------|------------------|------|------|------|------|
| Min (s)                                          | Max (s)          | 0.08 | 0.14 | 0.23 | 0.35 |
|                                                  |                  | 0.14 | 0.2  | 0.32 | 0.5  |

Note: I<sub>g</sub>: Earthing protection setting value · I<sub>g</sub> =1200A

- I Fault current value
- T Fault action delay time
- tg Earthing inverse time limit setting value

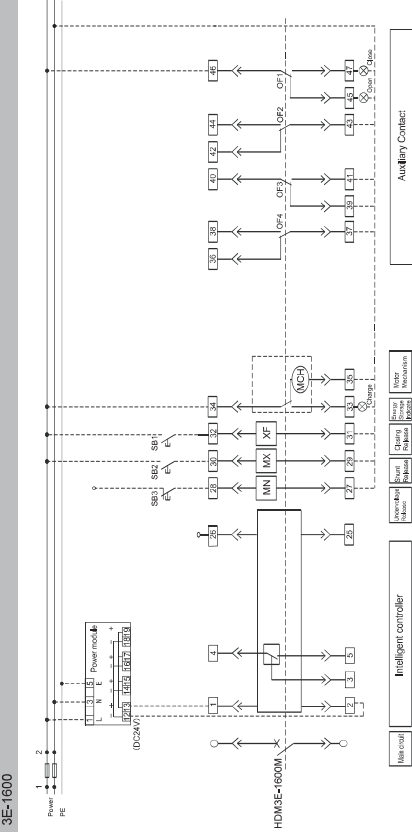
Inverse time limit action permissible error ± 20%  
(The off means is inverse time limit closed, this state is fixed time limit. Use current knob is off, that means earthing protection function is closed,)

5) Intelligent controller setting value

| Tripping curve  | Long time delay | Short time delay | Instantaneous  | Earthling fault | Thermal memory |
|-----------------|-----------------|------------------|----------------|-----------------|----------------|
| I <sub>Δt</sub> | I <sub>Δt</sub> | I <sub>sd</sub>  | I <sub>i</sub> | I <sub>g</sub>  | t <sub>g</sub> |
| 1600A           | 30s             | 8h               | 0.2s           | 10h             | 0.4s           |
|                 |                 |                  |                | 1100A           | 20min          |

HDM3E Mold Case Circuit Breaker(Electro)  
Controller Parameters(1600AF)  
Standard : IEC/EN 60947-2

Secondary wiring diagram



Controller Introduction:

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 AC220/230V, use IAPU331 power module;  
when power is AC380/400V, use IAPU332 power module, when power is DC220/110V, use IAPU332D power module.  
Note 3: HDM3E-1600M standard equipped with 2 open 2 dose 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 connect to the power supply by tandem connection with normal open button (achieve pre-storage energy manually). The dotted line part 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

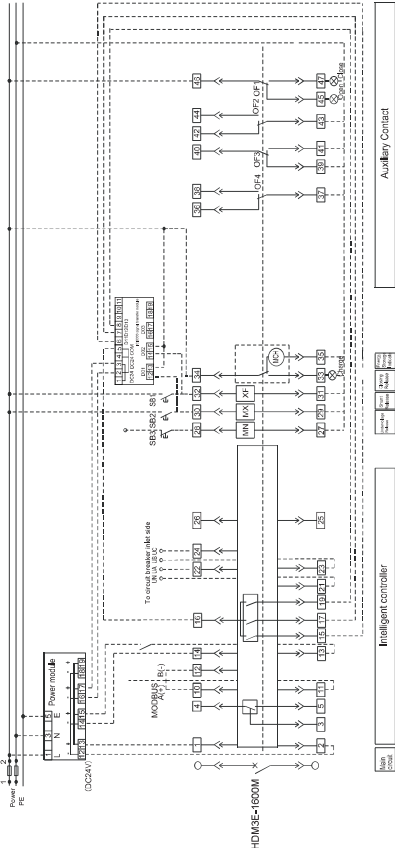
# HDM3E Mold Case Circuit Breaker(Electro

Controller Parameters(1600AF)

Standard : IEC/EN 60947-2

## Secondary wiring diagram

3E-T1600



### Controller Introduction:

- UM: Voltage measure signal input  
21#, 22#, 23#, 24# is the input of N.A.B.C phase voltage.
- ZSI: switch value in common, DI DO function is defined by customer  
13#, 14# is input of DC24V, 13# is connect to positive terminal, and 14# is connect to negative terminal.
- 15# 16# is remote open, 16# 17# is remote closing, 16#, 13# is general DO, and 16# is common terminal.
- Power: Power supply input  
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.
- Com: Communication output  
10#, 11# is communication connection, 12# is communication ground

| Button by users: |                           | Components: |                         |
|------------------|---------------------------|-------------|-------------------------|
| SB1              | —Closing button           | MN          | — Under-voltage release |
| SB2              | —opening button           | MX          | — Shunt release         |
| SB3              | —emergency cut-off button | XF          | — Closing release       |
|                  |                           | MCH         | — Motor mechanism       |
|                  |                           | OF1-OF4     | —Auxiliary contacts     |

- Note 1: 27#, 28# is under-voltage release terminal, connect from main circuit.
- Note 2: controller must connect power supply, when voltage power is AC220/230V, use IAPU33T power module; when power is AC380/400V, use IAPU332 power module, when power is DC220/110V, use IAPU332D power module.
- Note 3: When controller by remote, need to install signal transfer module(ICIO333, contact capacity is AC240V, 10A), the signal transfer module is equipped standard for four communication type product, it only can have three communication function (remote measure, remote test, remote communication) without singal transfer module
- Note 4: HDM3E-1600M standard equipped with 2 open 2 close contact.
- Note 5: Modbus-RTU is communication protocol , input terminal connect to 10#, 11#(cCom), output connect to bus of related protocol
- Note 6: Terminal 35# can not only be connected to power supply directly, achieve pre-storage energy automatically, but also can connect to the power supply by tandem connection with normal open button (achieve pre-storage energy manually). The dotted line part need connect by user.

Product selection  
Coding system

|                   |  |
|-------------------|--|
| Product selection |  |
| Coding system     |  |

Reference HDM3E125M12533XXP7

| HDX3E | 125- 125A                      | M.55VA | 125- 125A         | 3- 3 Pole                                                           | 3- Electronic tripping | XX- No necessary                                         |
|-------|--------------------------------|--------|-------------------|---------------------------------------------------------------------|------------------------|----------------------------------------------------------|
|       | 250- 250A                      |        | 250- 250A         | C- 4 Pole<br>(with tripping release, N<br>phase can open and close) |                        | 08- Alarm                                                |
|       | 400- 400A                      |        | 400- 400A         |                                                                     |                        | 10- Shunt release <sup>a)</sup>                          |
|       |                                |        |                   |                                                                     |                        | 18- Shunt release+alarm <sup>a)</sup>                    |
|       | 630- 630A                      |        | 630- 630A         | D- 4 Pole                                                           |                        | 20- Single auxiliary                                     |
|       | 800- 800A                      |        | 800- 800A         | (without tripping release, N<br>phase connection directly)          |                        | 28- Auxiliary alarm                                      |
|       | <b>16X- 1600A<sup>b)</sup></b> |        | <b>16X- 1600A</b> |                                                                     |                        | 30- Under-voltage release <sup>a)</sup>                  |
|       |                                |        |                   |                                                                     |                        | 38- Under-voltage release+alarm <sup>a)</sup>            |
|       |                                |        |                   |                                                                     |                        | 40- Shunt release+Single auxiliary <sup>a)</sup>         |
|       |                                |        |                   |                                                                     |                        | 48- Shunt release+Auxiliary alarm <sup>a)</sup>          |
|       |                                |        |                   |                                                                     |                        | 50- Shunt release+Under-voltage release                  |
|       |                                |        |                   |                                                                     |                        | 60- Double auxiliary(2CB)                                |
|       |                                |        |                   |                                                                     |                        | 68- Single auxiliary+auxiliary alarm                     |
|       |                                |        |                   |                                                                     |                        | 70- Under-voltage release+Single auxiliary <sup>a)</sup> |
|       |                                |        |                   |                                                                     |                        | 78- Under-voltage release+auxiliary alarm <sup>a)</sup>  |
|       |                                |        |                   |                                                                     |                        | 80- Shunt release+double auxiliary <sup>a)</sup>         |
|       |                                |        |                   |                                                                     |                        | 90- Under-voltage release+double auxiliary <sup>a)</sup> |

means special use for 1600 frame

HDM3E125M12533XX  
 HDM3E400M4003350  
 HDM3E16XM16X33XX  
 HDM3E16XM16X3350A

HDM3E-125M 3P  
HDM3E-400M 3P  
HDM3E-1600M 3P  
HDM3E-1600M 3P

HDM3E-1600M 3P shunt release/power module/undervoltage release/motor mechanism AC230V

1) Can choose the product reference according to above table.

- 2) 1600 AF standard offer: power module, default voltage: 400V. Auxiliary contact Zopen2dose, Alarm contact, 35-1600 controller, Interphase barriers 35-1600.
- 3) 125-800 AF inter accessory is standard offer with wiring (length 600mm) except undervoltage release (with terminal). If need other length or with terminal, please refer to the drawing.
- 4) General product offer: interphase barriers: installation screw.
- 5) There is no withdrawable connection product of 125/250 frame, and 400/630 frame don't have plug-in front connection product.
- 6) The default horizontal outlet bar is equipped for plug-in front connection product.
- 7) Please derating to 500A when choose plug-in rear connection and withdrawable connection of 630 frame, and must adjust the max setting current  $I_r=500A$ .

# HDM3E Molded Case Circuit Breaker(Electronic)

## Product selection

## Accessory coding system

### Accessories Selection

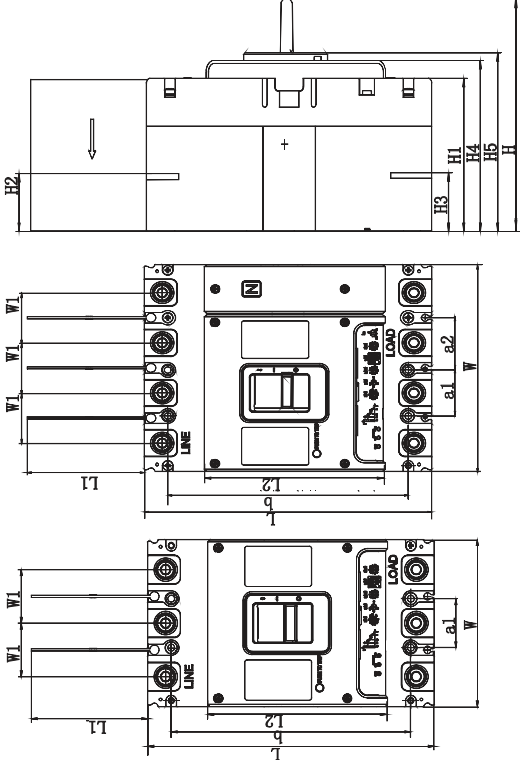
| HDM3E | Frame |    | Accessories                                                                                                                                                                                                                                                                                                                                                          |
|-------|-------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | 125   | H1 |                                                                                                                                                                                                                                                                                                                                                                      |
|       | 125A  |    | AL1: Alarm contact(with wire)<br>AL2: Alarm contact(with terminal)<br>MX1: Shunt release(with wire)<br>MX2: Shunt release(with terminal)<br>OF11K1B: Auxiliary contact 1K1B(with wire)<br>OF21K1B: Auxiliary contact 1K1B(with terminal)<br>OF12K2B: Auxiliary contact 2K2B(with wire)<br>OF22K2B: Auxiliary contact 2K2B(with terminal)<br>MN: Undervoltage release |
|       | 250A  |    | C3 3P Expanding terminal(6pcs)                                                                                                                                                                                                                                                                                                                                       |
|       | 400A  |    | C4 4P Expanding terminal(6pcs)                                                                                                                                                                                                                                                                                                                                       |
|       | 630A  |    | H1: Round direct handle<br>H2: Square direct handle                                                                                                                                                                                                                                                                                                                  |
|       | 800A  |    | IB3 3P Interphase barriers(6pcs)<br>IB4 4P Interphase barriers(8pcs)                                                                                                                                                                                                                                                                                                 |
|       | 1600A |    | HL1: Round extended rotation handle<br>HL2: Square extended rotation handle<br>D: AC/DC motor mechanism                                                                                                                                                                                                                                                              |
|       |       |    | M3EMKAC23DC24: Input AC230V output DC24V<br>M3EMKAC40DC24: Input AC400V output DC24V<br>M3EMKDC110DC24: Input DC110V output DC24V<br>M3EMKDC220DC24: Input DC220V output DC24V                                                                                                                                                                                       |

- means application for 125-800 frame
- means application for all frame
- means application for 1600 frame

# HDM3E Molded Case Circuit Breaker(Electronic)

## Installation Dimension

### Product appearance and installation dimension of 125A-800A



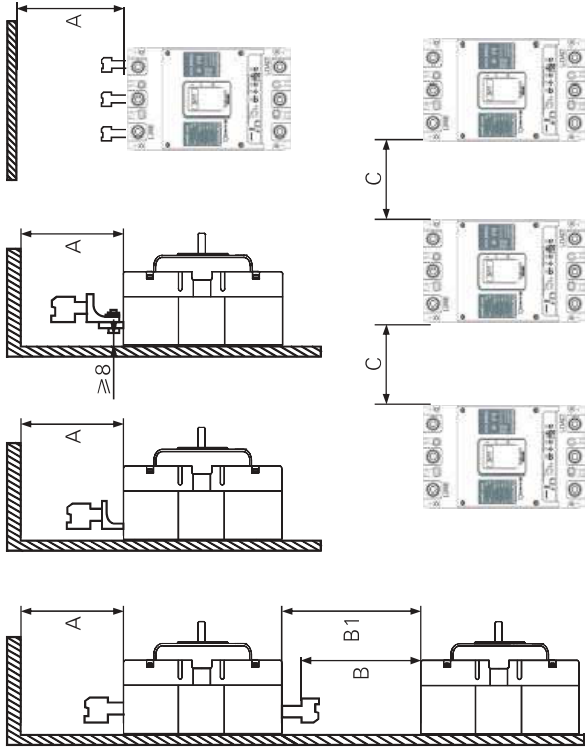
Unit: mm

| Product   | Pole | Appearance dimension |       |       |     |       |      |      |      |       |       | Installation dimension |    |     |  |
|-----------|------|----------------------|-------|-------|-----|-------|------|------|------|-------|-------|------------------------|----|-----|--|
|           |      | L                    | L1    | L2    | W1  | H     | H1   | H2   | H3   | H4    | H5    | a1                     | a2 | b   |  |
| HDM3E-125 | 3    | 165                  | 80    | 102.5 | 107 | 112.5 | 86   | 21.5 | 23   | 94    | 95.5  | 35                     | 35 | 126 |  |
|           | 4    |                      |       |       | 142 |       |      |      |      |       |       |                        |    |     |  |
| HDM3E-250 | 3    | 165                  | 80    | 102.5 | 107 | 112.5 | 86   | 23   | 23   | 94    | 95.5  | 35                     | 35 | 126 |  |
|           | 4    |                      |       |       | 142 |       |      |      |      |       |       |                        |    |     |  |
| HDM3E-400 | 3    | 257                  | 104.5 | 161.5 | 150 | 145.9 | 96.2 | 36.5 | 37   | 107.5 | 112.2 | 44                     | -  | 215 |  |
|           | 4    |                      |       |       | 198 |       |      |      |      |       |       |                        |    |     |  |
| HDM3E-630 | 3    | 257                  | 104.5 | 161.5 | 150 | 145.9 | 96.2 | 38.5 | 39.5 | 107.5 | 112.2 | 44                     | -  | 215 |  |
|           | 4    |                      |       |       | 198 |       |      |      |      |       |       |                        |    |     |  |
| HDM3E-800 | 3    | 280                  | 104.5 | 170   | 210 | 154   | 103  | 40.5 | 47   | 116   | 121   | 70                     | 70 | 243 |  |
|           | 4    |                      |       |       | 280 |       |      |      |      |       |       |                        |    |     |  |

# HDM3E Molded Case Circuit Breaker(Electronic)

## Installation Dimension

Safety clearance(125A-300A MCCB)



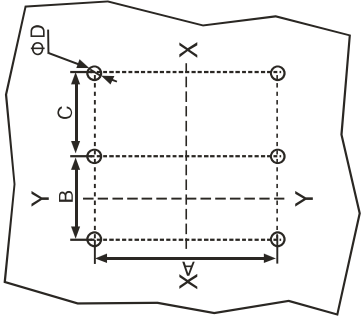
| Product       | A (mm) | B (mm) | B1 (mm)                 | C (mm) |
|---------------|--------|--------|-------------------------|--------|
| HDM3E-125/250 | 60     | 60     | Length of bare cable +B | 30     |
| HDM3E-400/630 | 110    | 110    |                         | 70     |
| HDM3E-800     | 110    | 110    |                         | 70     |

Note: No matter there is product with accessory or not,safety clearance must meet requirement of C.

# HDM3E Molded Case Circuit Breaker(Electronic)

## Installation Dimension

Fixed front installation hole dimensions(125-300A MCCB)



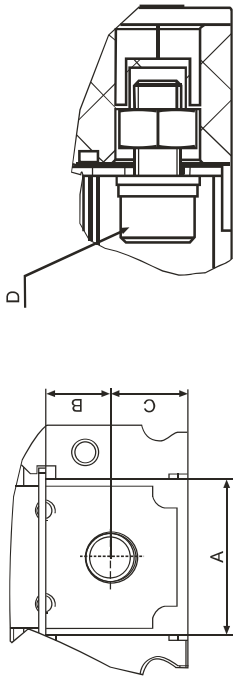
Note: X-X and Y-Y is the center of the three-pole breaker.

| Product   | Pole | A   | B  | C  | Unit: mm |
|-----------|------|-----|----|----|----------|
| HDM3E-125 | 3    | 126 | 35 | -  | ΦD       |
|           | 4    |     |    | 35 | 5.5      |
| HDM3E-250 | 3    | 126 | 35 | -  | 5.5      |
|           | 4    |     |    | 35 | 5.5      |
| HDM3E-400 | 3    | 215 | 44 | -  | 6.5      |
|           | 4    |     |    | -  | 6.5      |
| HDM3E-630 | 3    | 215 | 44 | -  | 6.5      |
|           | 4    |     |    | -  | 7.5      |
| HDM3E-800 | 3    | 243 | 70 | -  | 7.5      |
|           | 4    |     |    | 70 | 7.5      |

# HDM3E Molded Case Circuit Breaker(Electronic)

## Installation Dimension

Installation hole of terminal plate dimensions(125A-300A MCCB)



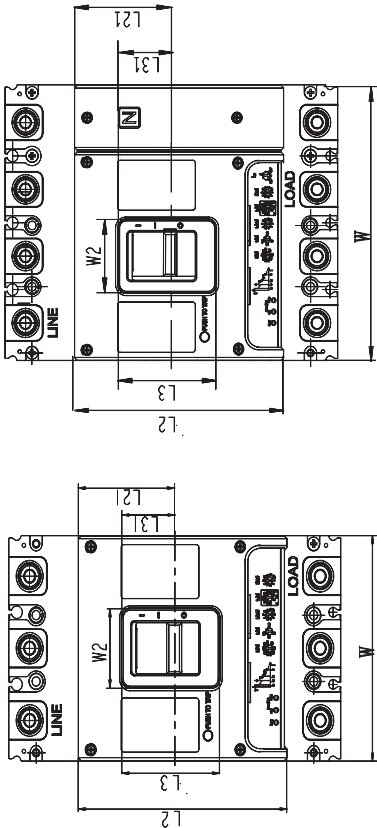
| Product   | A    | B    | C    | D      |
|-----------|------|------|------|--------|
| HDM3E-125 | 25.5 | 12   | 10   | M8x20  |
| HDM3E-250 | 25.5 | 12   | 10   | M8x20  |
| HDM3E-400 | 32   | 13   | 16   | M10x25 |
| HDM3E-630 | 32   | 13   | 16   | M10x35 |
| HDM3E-800 | 45.5 | 16.8 | 18.5 | M12x35 |

Unit: mm

# HDM3E Molded Case Circuit Breaker(Electronic)

## Installation Dimension

Fixed and plug-in rear plate hole dimension



Unit:mm

| Product   | Pole | Cover and handle reveal |       |      | Only handle reveal |      |      |
|-----------|------|-------------------------|-------|------|--------------------|------|------|
|           |      | W                       | L2    | L21  | W2                 | L3   | L31  |
| HDM3E-125 | 3    | 107                     | 102.5 | 51   | 26                 | 50.5 | 26.5 |
|           | 4    | 142                     |       |      |                    |      |      |
| HDM3E-250 | 3    | 107                     | 102.5 | 51   | 26                 | 50.5 | 26.5 |
|           | 4    | 142                     |       |      |                    |      |      |
| HDM3E-400 | 3    | 150                     | 161.5 | 75   | 52.5               | 75.5 | 41   |
|           | 4    | 198                     |       |      |                    |      |      |
| HDM3E-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                     |       |      |                    |      |      |

# HDM3E Molded Case Circuit Breaker(Electronic)

## Installation Dimension

### Product connection

#### 1 Notice

- 1) Wiring connection must be implemented by qualified persons;
- 2) wiring connection after ensuring incoming power is cut off;
- 3) wiring connection after MCCB installation;
- 4) MCCB wire connection must be correct connecting "LINE"to power supply, and"LOAD" to equipments, upside down is forbidden.

#### 2 Choosing standrand wire

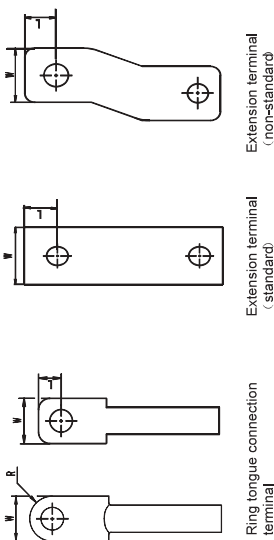
The size of wire for different frame of product:

Table1:

| Product   | The size of wire(mm <sup>2</sup> ) | Quantity |
|-----------|------------------------------------|----------|
| HDM3E-125 | 50                                 | 1        |
| HDM3E-250 | 120                                | 1        |
| HDM3E-400 | 240                                | 1        |
| HDM3E-630 | 185                                | 2        |
| HDM3E-800 | 240                                | 2        |

Note:If product connect with Busbar,it will need to use with extension terminal.

#### 3 Choosing ring tongue connection terminal and connection terminal



# HDM3E Molded Case Circuit Breaker(Electronic)

## Installation Dimension

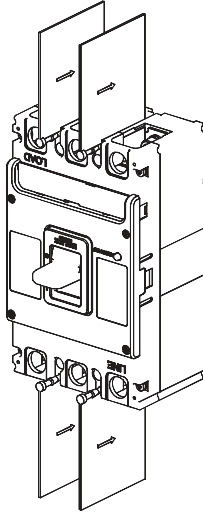
| Product   | W   | R (L) | Ring tongue connection terminal<br>part number of ring tongue connection terminal                                                                                                        |
|-----------|-----|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HDM3E-125 | ≤25 | ≤12   | 35mm <sup>2</sup> : DT03SSGD/DT03SSSED/DTG03SSSHD/DTL035MGD/SC35M8ZXD/<br>SC35M10ZXD/DT050SGD/DT050SSED/DTG050SHD/DTL050MGD/SC50M8ZXD/<br>SC50M10ZXD/SC50M12ZXD<br>OT: OT100ASD/OT150ASD |
| HDM3E-250 |     |       | 70mm <sup>2</sup> : DT070SED/DTG070SHD/SC70M10ZXD/SC70M12ZXD<br>85mm <sup>2</sup> : SC95M10ZXD/SC95M13ZXD<br>OT: OT250ASD/OT300ASD                                                       |
| HDM3E-400 |     |       | 120mm <sup>2</sup> : DT120SGD/DT120SSED/DTG120SHD/DTL120MGDDHADT120M13W28FT<br>185mm <sup>2</sup> : DT185SGD/DT185SSED/DTG185SHD/DTL185MGDDHADT185M13W30FT<br>OT: OT400ASD               |
| HDM3E-630 | ≤32 | ≤13   |                                                                                                                                                                                          |
| HDM3E-800 | ≤45 | ≤16   | 240mm <sup>2</sup> : DT240SGD/DT240SSED/DTHADT240M14W398FT                                                                                                                               |

Note:

1. The type and part number of terminals in the table are Himel's type and part number;
2. The size of cable matched with terminal must be bigger than the size in the table,standard type is recommended.

#### 4

The screw must be tighten, torque shall be bigger than the table below,Interphase barriers must be installed as picture below.In case of short circuit between the phase, insulated end of cable is necessary.



Interphase barriers installation

| Product       | Screw for connection | Torque(N.m) |
|---------------|----------------------|-------------|
| CDM6E-125/250 | M8 × 20mm            | 9.5-10.5    |
| CDM6E-400/630 | M10 × 25mm           | 19.5-20.5   |
| CDM6E-800     | M12 × 35mm           | 29.5-30.5   |



# HDM3E Molded Case Circuit Breaker(Electronic)

## Installation Dimension

### 1600A appearance and installation dimension

Dimension of busbar and hole

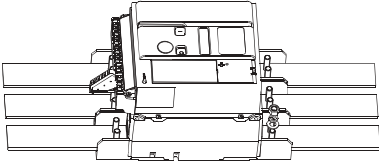
Busbar dimension

The table below based on assumption below:

- The highest temperature is 100℃ on busbar
- Ti: Environment temperature around breaker and connection parts
- Copper varnished wire

Front connection parts

and connection parts



Note:

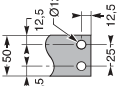
The data in the table below comes from test and theoretical calculation under assumption condition above.  
The table below is helpful to connection part design, but need to test to be confirmed.

| 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 |
| 630         | 2b,40x5                     | 1b,40 x 10     | 2b,40x5                     | 1b,40 x 10     | 2b,40x5                     | 1b,40 x 10     |
| 800         | 2b,50x5                     | 1b,50 x 10     | 2b,50x5                     | 1b,50 x 10     | 2b,50x5                     | 1b,53 x 10     |
| 1000        | 3b,50x5                     | 1b,53 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     |
| 1600        | 3b,80x5                     | 2b,63 x 10     | 3b,80x5                     | 2b,63 x 10     | 3b,80x5                     | 2b,50 x 10     |

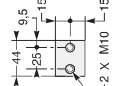
Note: The data in the tables above are derived from experiments and theoretical calculations, and it is not possible to substitute industrial experience or temperature rise tests for guidance only.

| Product    | screw      | Torque (N.m) |
|------------|------------|--------------|
| HDM3E-1600 | M10 x 40mm | 50           |

### Front connection size



Recommended the size of busbar



The size of top terminal

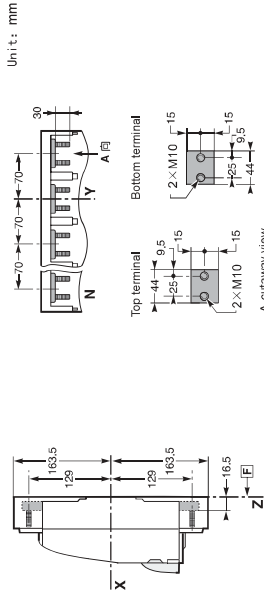
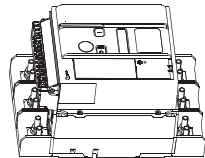
The size of bottom terminal

# HDM3E Molded Case Circuit Breaker(Electronic)

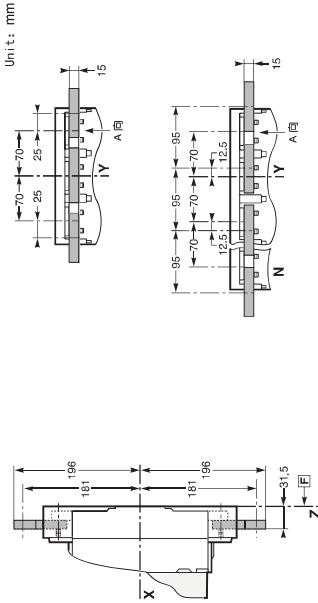
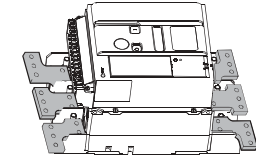
## Installation Dimension

### 1600A Fixed busbar

Front Connection

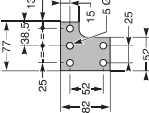


### Front connection with extension terminal

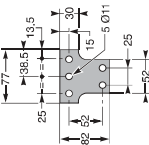


### Extension terminal drawing

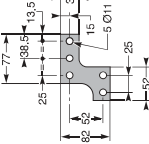
Extension terminal for A phase or B phase of 4 pole



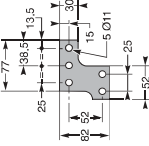
Extension terminal for B phase of 3 pole



Extension terminal for N phase or C phase of 4 pole



Extension terminal for A phase or C phase of 3 pole

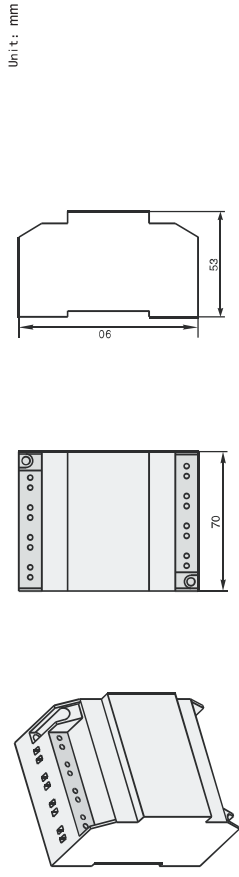


A Cutaway view

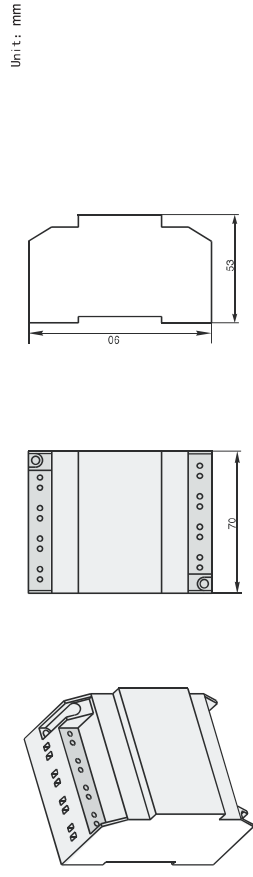
# HDM3E Molded Case Circuit Breaker(Electronic)

## Installation Dimension

1600A Power supply module&singal conversion module dimension  
Supply power module can be installed on DIN rail.



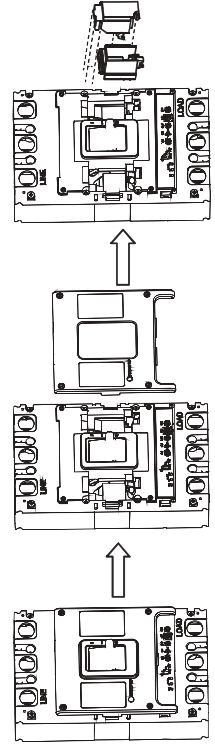
Signal conversion module can be installed on DIN rail



# HDM3E Molded Case Circuit Breaker(Electronic)

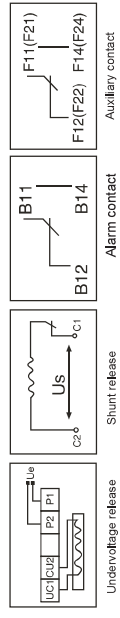
## Accessory Installation

Internal accessories installation(125A-800A MCCB)  
Diagram of inside 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 top cover, tighten the screws.  
An accessory can be installed in the left or right position including shunt release, undervoltage release, auxiliary contact, alarm and auxiliary contact.

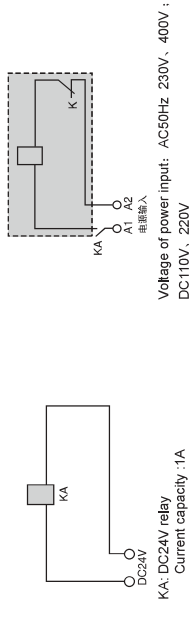
Internal accessory wiring diagram



When rated voltage of shunt release is DC24V, the longest of copper wire is no more than data below:

| Rate voltage for control power Us(DC24V) | Sectional area 1.5mm² | Sectional area 2.5mm² |
|------------------------------------------|-----------------------|-----------------------|
| 100%Us                                   | 150m                  | 250m                  |
| 80%Us                                    | 100m                  | 160m                  |

If you can not match requirement the above table, the following diagram is used to design the control circuit of the shunt release:



## HDM3E Molded Case Circuit Breaker(Electronic) Accessory Installation

## Internal accessories test

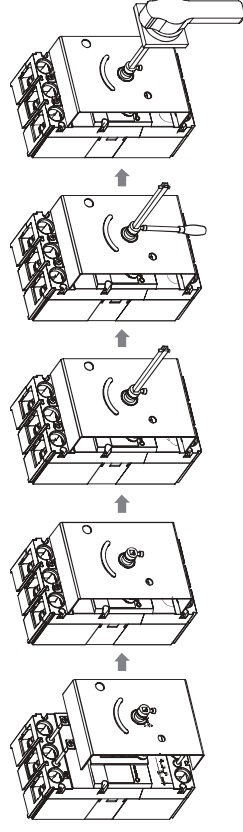
- 1) Shut down power supply for undervoltage release, breaker should be off, handle is on trip position;
- 2) Shunt release is under rated voltage breaker should be off handle is on trip position;
- 3) Switch on or off breaker with auxiliary contact auxiliary contact can conversion normally singal ;
- 4) Switch on or (trip/press red button) breaker alarm contact can conversion normally singal .

Note: The electrified time of shunt release lasts no more than 5s, otherwise shunt release will burnt out. When rated voltage of control power is DC24V, rated current of control circuit is 4.5~5.5A.

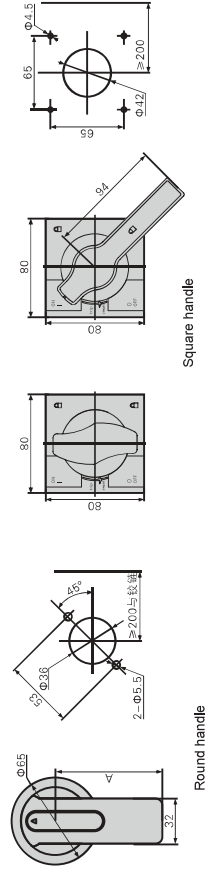
## HDM3E Molded Case Circuit Breaker(Electronic) Accessory Installation

## Outside accessories installation(125A-800A MCCB)

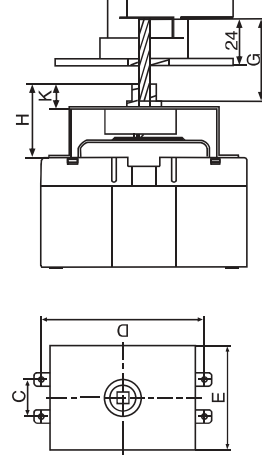
## Outside accessories installation(125A-800A MCCB)



| Rotary handle and installation dimension | Unit: mm |
|------------------------------------------|----------|
|                                          |          |



Dimension of mechanism



| 产品型号           | C  | D   | E   | H  | K  |
|----------------|----|-----|-----|----|----|
| CDM6E1-125/250 | 35 | 143 | 100 | 49 | 20 |
| CDM6E1-400/630 | 44 | 215 | 140 | 76 | 20 |
| CDM6E1-800     | 70 | 243 | 210 | 76 | 20 |

Installed rotary handle, operation should be flexible, and the handle in the horizontal, circuit breaker should be switched on, handle in the vertical position, circuit breaker should be closed.

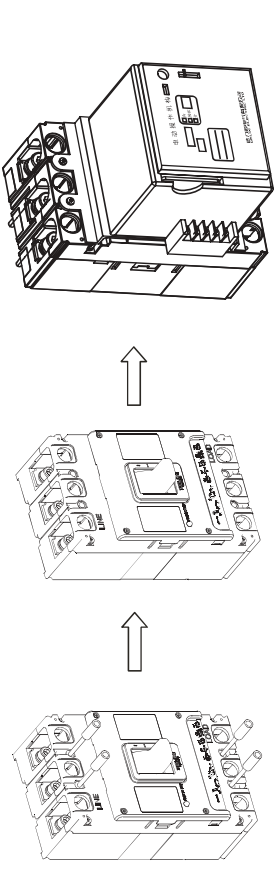
Note:

1) G means the shortest connection bar is 40mm standard is 150mm can be customized.

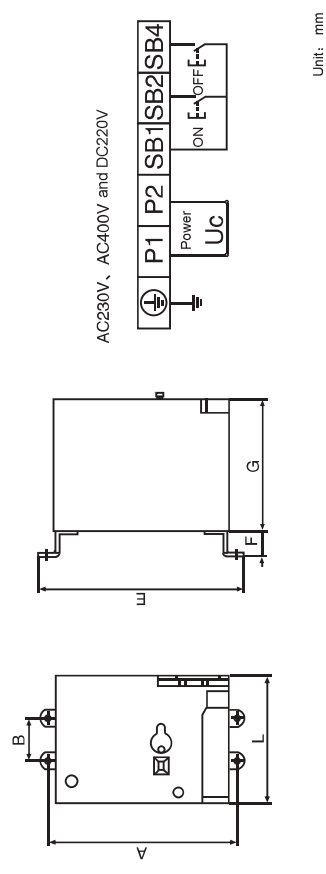
# HDM3E Molded Case Circuit Breaker(Electronic)

## Accessory Installation

**Motor operating mechanism(125A-300A MCCB)**  
Motor operating mechanism installation diagrams.



Installation dimension of motor operating mechanism and wiring diagram.



| Product       | A   | B  | L    | E   | F  | G   |
|---------------|-----|----|------|-----|----|-----|
| HDM3E-125/250 | 126 | 35 | 90,5 | 140 | 12 | 77  |
| HDM3E-400/630 | 215 | 44 | 130  | 232 | 32 | 115 |
| HDM3E-800     | 243 | 70 | 130  | 260 | 31 | 115 |

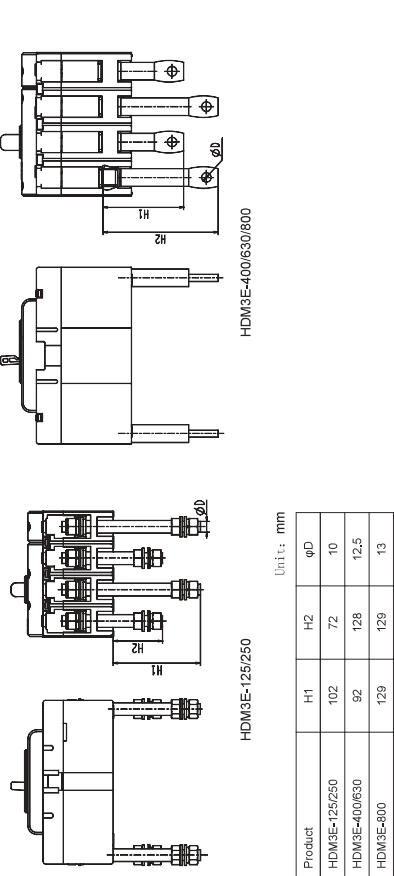
Note:

- 1) When the breaker with motor operating mechanism trips, motor operating mechanism must be switched off before being switched on.
- 2) The breaker can be remotely control by motor operating mechanism.Only qualified people can remove motor operating mechanism when operating on USB connection and dial switch.

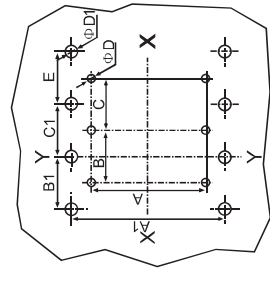
# HDM3E Molded Case Circuit Breaker(Electronic)

## Accessory Installation

**Fixed rear connection(125A-300A MCCB)**  
Installation dimension of fixed rear connection



Installation hole dimension of fixed rear connection



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

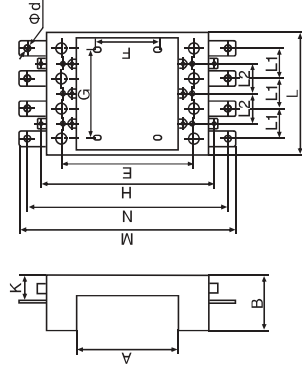
| Product       | Pole | A   | B  | C  | φD  | A1  | B1 | C1 | E | φD1 |
|---------------|------|-----|----|----|-----|-----|----|----|---|-----|
| HDM3E-125/250 | 3    | 126 | 35 | -  | 5,5 | 145 | 35 | 35 | - | 15  |
|               | 4    | -   | -  | 35 | -   | -   | -  | -  | - | -   |
| HDM3E-400/630 | 3    | 215 | 44 | -  | 6,5 | 225 | 48 | 48 | - | 32  |
|               | 4    | -   | -  | -  | -   | -   | -  | -  | - | -   |
| HDM3E-800     | 3    | 243 | 70 | -  | 7,5 | 243 | 70 | 70 | - | 40  |
|               | 4    | -   | -  | 70 | -   | -   | -  | -  | - | -   |

Unit: mm

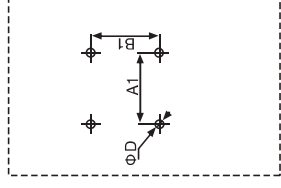
## HDM3E Molded Case Circuit Breaker(Electronic) Accessory Installation

### Plug-in front connection(125A-800A MCCB)

### Installation dimension and installation hole dimension of plug-in front connection



## Installation dimension of plug-in connection



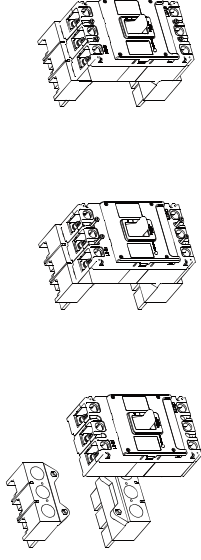
### Installation hole dimension of plug-in connection

| Product    | Pole | A     | B    | E   | F  | G   | H   | L   | L1 | M   | N   | K    | Qd  | A1 | B1  | QD |
|------------|------|-------|------|-----|----|-----|-----|-----|----|-----|-----|------|-----|----|-----|----|
| COMBEI+250 | 3    | 108.5 | 73.2 | 144 | 74 | 70  | 191 | 105 | 35 | 243 | 223 | 37.5 | 8.5 | 35 | 150 | 5  |
|            | 4    |       |      |     |    | 105 |     | 140 |    |     |     |      |     |    |     |    |

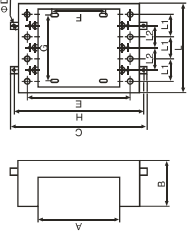
## HDM3E Molded Case Circuit Breaker(Electronic) Accessory Installation

### Plug-in rear connection(125A-800A)

### Installation dimension of plug-in rear connection



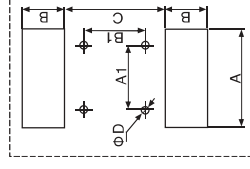
### Installation diagram of plug-in rear connection accessory



### Installation dimension of plug-in rear connection accessory

| Product       | Pole | A     | B    | C   | D  | E   | F   | G   | H   | L   | L1 | L2 | Unit: |
|---------------|------|-------|------|-----|----|-----|-----|-----|-----|-----|----|----|-------|
| CDMBE-125/250 | 3    | 108.5 | 73.2 | 203 | M4 | 144 | 74  | 70  | 191 | 105 | 35 | 35 |       |
|               | 4    |       |      |     |    |     |     |     |     |     |    |    |       |
| CDMBE-400/630 | 3    | 170   | 60   | -   | -  | 225 | 130 | 108 | -   | 152 | 48 | 44 |       |
|               | 4    |       |      |     |    |     |     |     |     |     |    |    |       |
| CDMBE-600     | 3    | 167   | 125  | 342 | M5 | 243 | 143 | 140 | 328 | 210 | 70 | 70 |       |
|               | 4    |       |      |     |    |     |     |     |     |     |    |    |       |

### Installation hole dimension of plug-in rear connection accessory



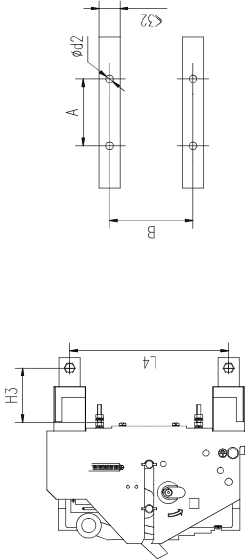
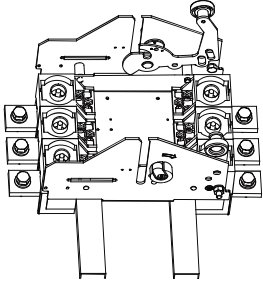
| Product       | Pole | A   | A1  | B  | B1  | C   | ØD  |
|---------------|------|-----|-----|----|-----|-----|-----|
| HDM3E-125/250 | 3    | 110 | 70  |    |     |     |     |
|               | 4    | 145 | 105 | 45 | 74  | 100 | 6,5 |
| HDM3E-400/630 | 3    | 152 | 88  |    |     |     |     |
|               | 4    | 200 | 132 | 60 | 145 | 170 | 8,5 |
| HDM3E-800     | 3    | 212 | 140 |    |     |     |     |
|               | 4    | 282 | 210 | 64 | 143 | 185 | 11  |

# HDM3E Molded Case Circuit Breaker(Electronic)

## Accessory Installation

Withdrawable connection(125~800 frame)

Installation dimension of withdrawable connection accessory

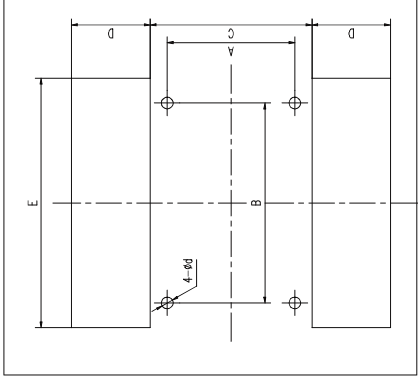


| Product   | Pole | Appearance dimension |     |     |     | Installation dimension |      |    |    |     |     |     |     |     |
|-----------|------|----------------------|-----|-----|-----|------------------------|------|----|----|-----|-----|-----|-----|-----|
|           |      | L1                   | L2  | L3  | L4  | H1                     | H2   | H3 | W1 | W2  | φd1 | A   | B   | φd2 |
| HDM3E-400 | 3P   | 310                  | 339 | 203 | 223 | 253                    | 17.5 | 77 | 48 | 223 | φ11 | 96  | 140 | φ7  |
|           | 4P   | 310                  | 339 | 203 | 223 | 253                    | 17.5 | 77 | 48 | 271 | φ11 | 144 | 140 | φ7  |
| HDM3E-630 | 3P   | 310                  | 339 | 207 | 223 | 253                    | 17.5 | 77 | 48 | 223 | φ11 | 96  | 140 | φ7  |
|           | 4P   | 310                  | 339 | 207 | 223 | 253                    | 17.5 | 77 | 48 | 271 | φ11 | 144 | 140 | φ7  |
| HDM3E-800 | 3P   | 367                  | 410 | 241 | 231 | 238                    | 26   | 73 | 70 | 289 | φ13 | 140 | 131 | φ7  |
|           | 4P   | 367                  | 410 | 241 | 231 | 238                    | 26   | 73 | 70 | 359 | φ13 | 140 | 131 | φ7  |

# HDM3E Molded Case Circuit Breaker(Electronic)

## Accessory Installation

Installation hole dimension of withdrawable connection



| Product   | Opening hole on plate |     |     |     |    |     |     |   |  |
|-----------|-----------------------|-----|-----|-----|----|-----|-----|---|--|
|           | A                     | B   |     | C   | D  | E   |     | d |  |
|           |                       | 3P  | 4P  |     |    | 3P  | 4P  |   |  |
| HDM3E-400 | 140                   | 96  | 144 | 178 | 47 | 147 | 195 | 7 |  |
| HDM3E-630 | 140                   | 96  | 144 | 178 | 47 | 147 | 195 | 7 |  |
| HDM3E-800 | 131                   | 140 | 210 | 170 | 77 | 213 | 283 | 7 |  |

Note: 1. 630A HDM3E need to reduce capacity to 500A to use withdrawable connection.  
2. If customer has no special requirement, withdrawable connection will not equip with electrical interlock.

# HDM3E Molded Case Circuit Breaker(Electronic)

## Accessory Installation

Accessories installation position(125A-800A MCCB)

☐ Alarm contact      ☒ Auxiliary contact      ☒ Shunt release      ☐ Undervoltage release



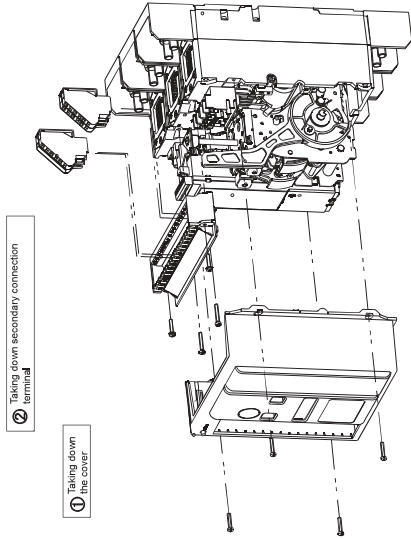
| Accessory code | Accessory name                                                                                     | Product type                        |                                     |                                     |                                     |
|----------------|----------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Electronic     |                                                                                                    | HDM3E-125                           | HDM3E-250                           | HDM3E-400                           | HDM3E-630                           |
| 308            | Alarm contact<br>(can be installed on the right or left side, default left side)                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 310            | Shunt release<br>(can be installed on the right or left side, default right side)                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 320            | Auxiliary contact<br>(can be installed on the right or left side, default left side)               | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 330            | Undervoltage release                                                                               | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 340            | Shunt release+auxiliary contact                                                                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 360            | Shunt release+undervoltage release                                                                 | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 360            | Two pieces of auxiliary contact<br>(can be installed on the right or left side, default left side) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 370            | Auxiliary contact+undervoltage release                                                             | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 318            | Shunt release+alarm contact                                                                        | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 328            | Auxiliary contact+alarm contact<br>(can be installed on the right or left side, default left side) | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 338            | Undervoltage release+alarm contact                                                                 | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 348            | Shunt release+auxiliary contact+alarm contact                                                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 368            | Two piece of auxiliary contact+alarm contact                                                       | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 378            | Auxiliary contact+undervoltage release+alarm contact                                               | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |

# HDM3E Molded Case Circuit Breaker(Electronic)

## Accessory Installation(1600A)

### 1600A Inside accessories

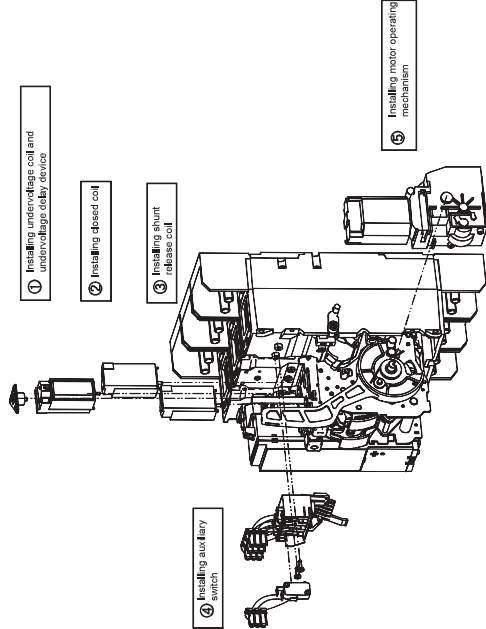
Taking down the cover and secondary connection terminal.



Danger:  
Make sure power supply shut down  
before installation



Installing coil,motor operating mechanism and auxiliary contact



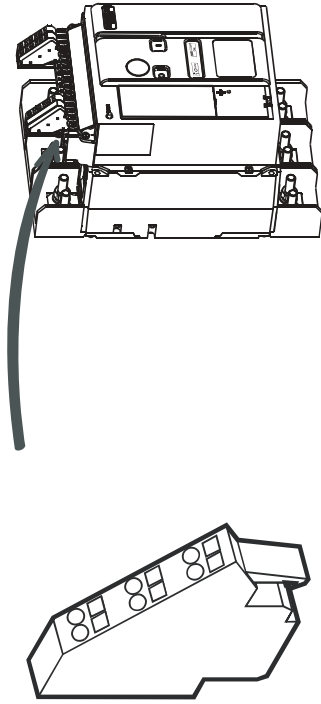
# HDM3E Molded Case Circuit Breaker(Electronic)

## Accessory Installation(1600A)

### 1600A Secondary circuit connection

Fixing auxiliary terminal

Fixed type  
Inserting auxiliary terminal into groove directly



Terminal layout

DC24V

| Res/NT       | 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    | 18/19 | 2   | 3   | 12  |    |    |    |    | 33  |    | 36               | 39  | 42  | 45  |
|              | 21/24 | 14/15 |     | 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

HDM3E Molded Case Circuit Breaker(Electronic)  
Accessory Installation(1600A)

Wiring for auxiliary terminal

mini

S : 0.6 mm<sup>2</sup>

maxi

S : 2.5 mm<sup>2</sup>

8

Sectional area of wire

Min 0.6mm<sup>2</sup>

Max 2.5mm<sup>2</sup>

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

Transform installation

connect the transform with control unit terminal  
(match number in transform and control unit terminal)

HDM3E Molded Case Circuit Breaker(Electronic)  
Accessory Installation(1600A)

| Temperature derating table |       |           |           |           |
|----------------------------|-------|-----------|-----------|-----------|
| Frame                      | +40 C | +50 C     | +60 C     | +70 C     |
| 125A                       | -     | -         | Inm=80A   | Inm=63A   |
| 250A                       | -     | -         | Inm=200A  | Inm=160A  |
| 400A                       | -     | -         | Inm=315A  | Inm=250A  |
| 630A                       | -     | -         | Inm=500 A | Inm=400A  |
| 800A                       | -     | -         | Inm=560A  | Inm=500A  |
| 1600A                      | -     | Inm=1500A | Inm=1250A | Inm=1000A |

Note Max I<sub>n</sub> is smaller than Inm.  
If the breaker is applied to the high temperature area, please refer the table above.

HDM3E(125-800AF) Tripping curve

49

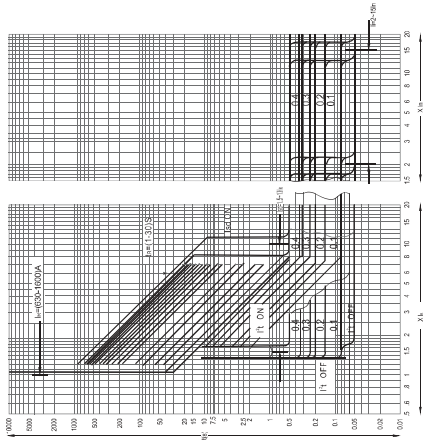
50

# HDM3E Molded Case Circuit Breaker(Electronic)

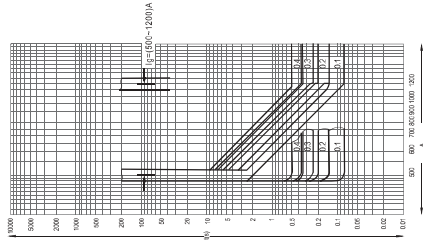
## Tripping curve(1600A)

**HDM3E-1600AF** Tripping characteristic

Triple protection



Underground protection



# HDM3E Molded Case Circuit Breaker(Electronic)

## Standard product type



**125A-300A MCCB**

Standard products can be provided for 125-800A

Standard electronic, LSI triple protection.

- Each protection can be open and closed, can be set up for distribution or motor protection



**1600A**

2 standard product can be provided for 1600A

### 1. Standard electronic ,LSIC protection.

- Each protection can be open and closed except long time delay protection can be set up for distribution or motor protection
- Control unit is 3E-1600, power supply module, alarm contact, auxiliary contact(2 NO 2 NC), interphase barriers

### 2. Four remote control and communication function, LSIC protection.

- Each protection can be open and closed except long time delay protection can be set up for distribution or motor protection
- Equipped RS485, and support Modbus-RTU is communication protocol
- 1600 AF standard offer: power module(AC400V/DC24V); Auxiliary contact 2open2close; Alarm contact: 3E-T1600 controller; motor mechanism(including motor, shunt release, close coil), the voltage must be the same of the above accessory, signal transfer module; Interphase barriers

# HDM3E Molded Case Circuit Breaker(Electronic)

## Product reference

| Order reference  | Product description      |
|------------------|--------------------------|
| HDM3E125M12533XX | HDM3E-125M125A           |
| HDM3E250M25033XX | HDM3E-250M 3 pole 250A   |
| HDM3E400M40033XX | HDM3E-400M 3 pole 400A   |
| HDM3E630M63033XX | HDM3E-630M 3 pole 630A   |
| HDM3E800M80033XX | HDM3E-800M 3 pole 800A   |
| HDM3E16XM16X33XX | HDM3E-1600M 3 pole 1600A |
| HDM3E125M125C3XX | HDM3E-125M 4 pole 125A   |
| HDM3E250M250C3XX | HDM3E-250M 4 pole 250A   |
| HDM3E400M400C3XX | HDM3E-400M 4 pole 400A   |
| HDM3E630M630D3X  | HDM3E-630M 4 pole 630A   |
| HDM3E800M800D3XX | HDM3E-800M 4 pole 800A   |
| HDM3E16XM16XC3XX | HDM3E-1600M 4 pole 1600A |

## Remark